ZS-M7

SERVICE MANUAL

Ver 1.0 1998.08

US Model
AEP Model
UK Model
Tourist Model

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MD Section	Model Name Using Similar Mechanism	NEW
	MD Mechanism Type	MDM-3EG
	Optical Pick-up Type	KMS-260A
CD Section	Model Name Using Similar Mechanism	NEW
	MD Mechanism Type	CDM-2411AAA
	Optical Pick-up Type	DAX-11A

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS
POWER OUTPUT AND TOTAL HARMONIC DISTORTION
With 4-ohm loads, both channels driven from 100 – 10,000 Hz ; rated 7W per channel-minimum RMS power, with no more than 10% total harmonic distortion in AC operation (US Model).

CD player Section
System Compact disc digital audio system
Laser diode properties
Material: GaAlAs
Wave length: 785 nm
Emission duration : Continuous
Laser output : Less than 44.6 µW
(This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)
Spindle speed
200 r/min (rpm) to 500 r/min (rpm) (CLV)
Number of programme positions
2
Frequency response
20 – 20,000 Hz +1 /–2 dB
Wow and flutter
Below measurable limit

Radio section
Frequency range
US Model :
FM : 87.6 – 108 MHz
AM : 530 – 1,710 kHz
EXCEPT US Model :
FM : 87.6 – 107 MHz
MW : 531 – 1,602 kHz
LW : 153 – 279 kHz
IF FM : 10.7 MHz
MW/LW : 450 kHz
Aerials FM : Telescopic areal
Extension areal terminal
AM : Extension areal terminals (US Model)
MW/LW : Extension areal terminals (EXCEPT US Model)

MD player section
System
Minidisc digital audio system
Disc MiniDisc
Laser diode properties
Material: GaAlAs
Wave length: 785 nm
Emission duration : Continuous
Laser output : Less than 44.6 µW
(This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)

– Continued on page 2 –

PERSONAL MINIDISC SYSTEM

MICROFILM

SONY®

Recording/Playback time
Maximum 74 minutes (with MDW-74)
Revolutions
400 rpm to 900 rpm (CLV)
Error correction
Advanced Cross Interleave Reed Solomon Code (ACIRC)
Sampling frequency
44.1 kHz
Cording Adaptive Transform Acoustic Cording (ATRAC)
Modulation system
EFM (Eight-to-Fourteen Modulation)
Number of programme positions
2 stereo programme positions
Frequency response
20 – 20,000 Hz +1 /–2 dB
Signal-to-noise ratio
Over 80 dB (during playback)
Wow and flutter
Below measurable limit

General
Speaker
Full range : 8 cm (3 in.) dia., 4ohms, cone type (2)
Inputs
LINE IN (stereo minijack) : Sensitivity 436 mV/691 mV
Outputs
Headphones jack (stereo minijack) (2) : For 32 ohms impedance headphones
Power outputs
7 W + 7 W
Power requirements
For personal minidisc system :
US Model :120V AC, 60Hz
EXCEPT US Model :230V AC, 50Hz
For remote commander :
3V DC, 2 size AA (R6) batteries
Power consumption
30 W
Dimensions (incl. projecting parts)
Approx. 528 x 275 x 139 mm (w/h/d)
(20 7/8 x 10 7/8 x 5 1/2 inches)
Mass approx. 6.4 kg (14 lb. 2 oz)
Supplied accessories
Remote commander (1)
AM loop aerial (1) (US Model)
MW/LW loop aerial (1) (EXCEPT US Model)
Speaker nets (2) (EXCEPT US Model)

Design and specifications are subject to change without notice.

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SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer :
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microampers).
Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

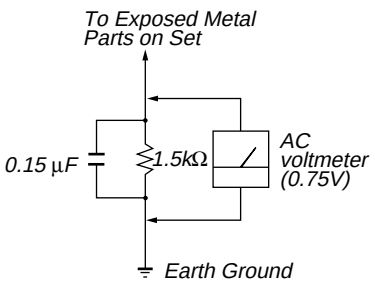


Fig. A. Using an AC voltmeter to check AC leakage.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY-RELATED COMPONENT WARNING!!

**COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION.
REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

SECTION 1
SERVICE NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

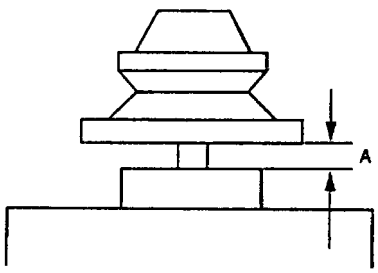
The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Close the lid for CD.
2. Press CD ▶II button.
3. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down once for the focus search.

CAUTION DURING WHEN MOUNTING THE PULLEY FOR THE LOADING MOTOR

Make the following adjustment when mounting the loading motor (part number : 1-698-999-11) and motor pulley (part number : 2-627-174-01) of the CD section.

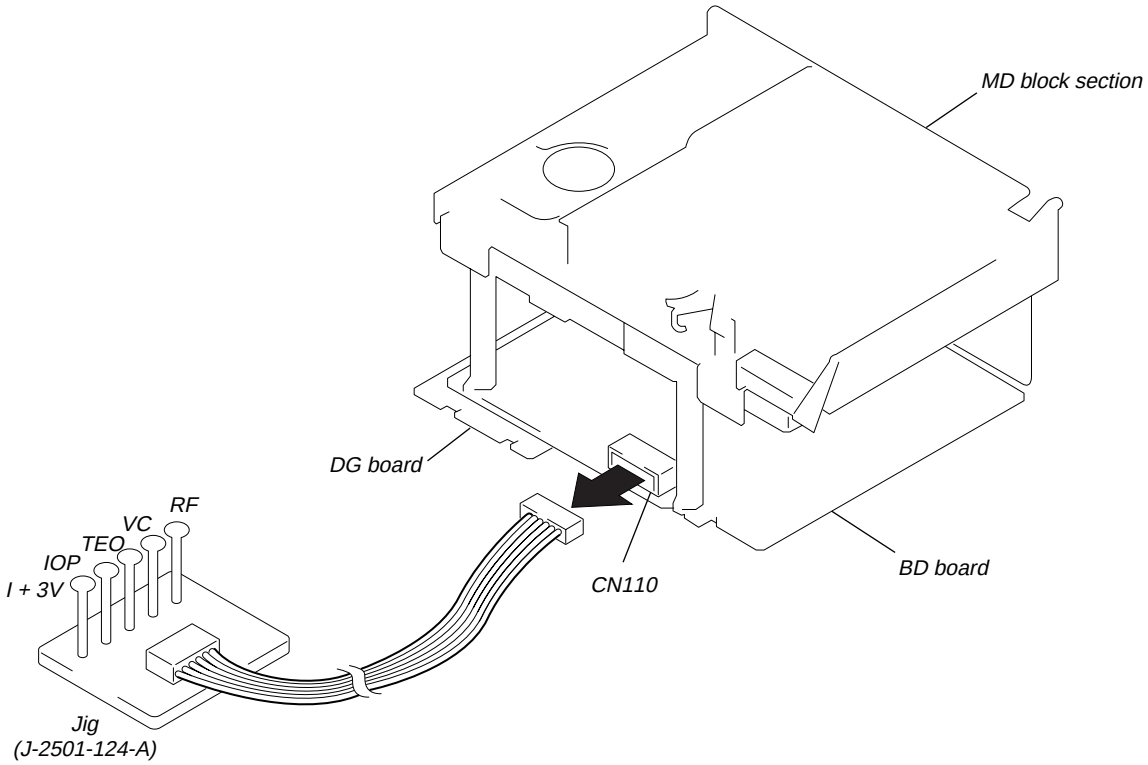


Specification : A = 0.9 to 1.1mm

ABOUT THE BD BOARD WAVEFORM CHECKING JIG

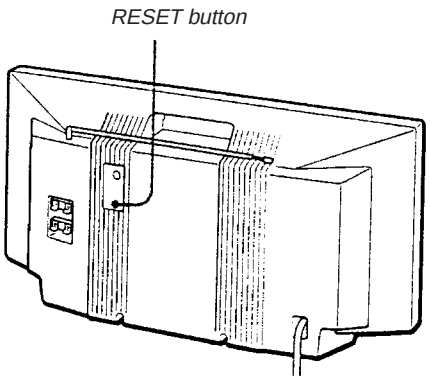
The special jig (J-2501-124-A) is highly convenient when checking the waveform of the BD board of the MD section. Pin names and items to check are as follows:

I+3V : for IOP measurement (check for depleted optical pickup laser)
IOP : for IOP measurement (check for depleted optical pickup laser)
TEO : TRK error signal (traverse adjustment)
VC : Standard level for checking signals
RF : RF signal (jitter check)



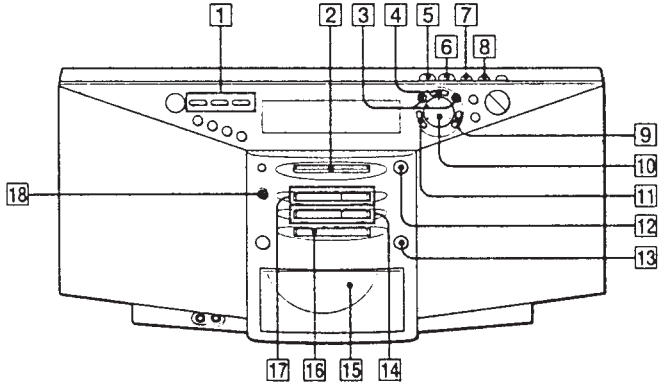
ABOUT THE HARDWARE RESET

It is possible to reset the system microcomputer by pressing the RESET button located on the rear with a pointed object. Use this button when the unit cannot be operated properly due to such problems as microcomputer errors, etc.



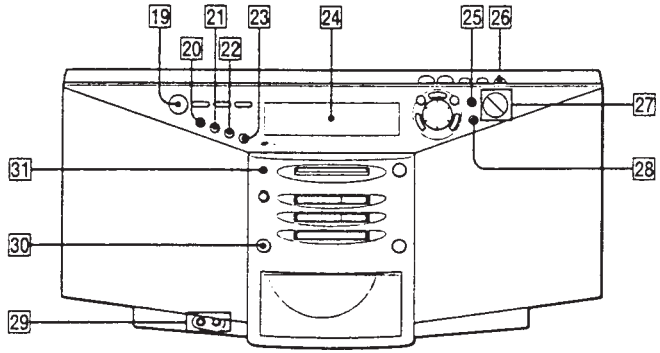
LOCATION AND FUNCTION OF CONTROLS

FRONT PANEL : RADIO section



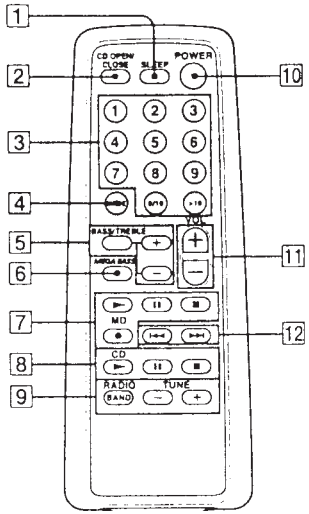
1 CD ►MD SYNCHRO REC button
DISC ALL
REC IT : TO TOP
TO END
2 MD insert section
3 TUNE–, + • ◀◀, ▶▶ •⇦, ⇨button
4 EDIT button
5 DELETE button
6 INSERT button
7 AUTO PRESET•SHUF/PGM button
8 LINE LEVEL•MONO/ST•REPEAT button
9 ENTER•YES button
10 Jog dial
I◀◀ /▶▶I AMS
PRESET
11 CANCEL•NO button
12 ⏏ MD EJECT button
13 ⏏ CD OPEN/CLOSE button
14 CD operation buttons
►II (play/pause)
■ (stop)
15 CD tray
16 BAND button
17 MD operation button
►II (play/pause)
■ (stop)
18 REC button

FRONT PANEL : TIMER • COM section



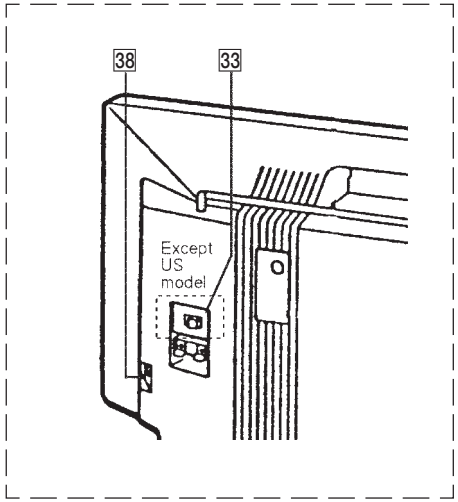
19 POWER button (US MODEL)
OPERATE button (EXCEPT US MODEL)
20 SLEEP button
21 STANDBY button
22 TIMER button
23 CLOCK button
24 Display window
25 BASS/TREBLE button
26 MEGA BASS button
27 VOLUM –, + button
28 DISPLAY button
29 ∩ (Headphones) Jack (stereo mini jack)
30 LINE button
31 Remote control receiver section

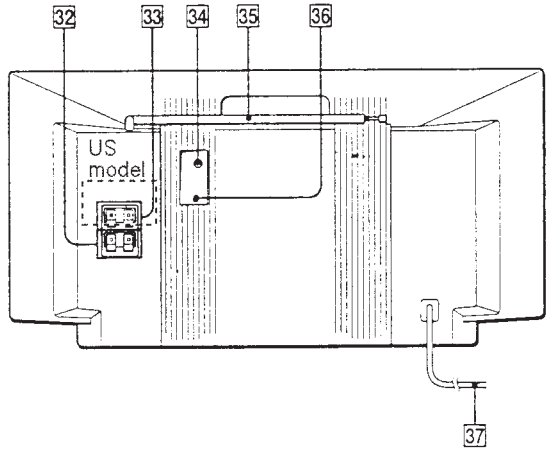
REMOTE CONTROL



REAR PANEL section

EXCEPT US Model





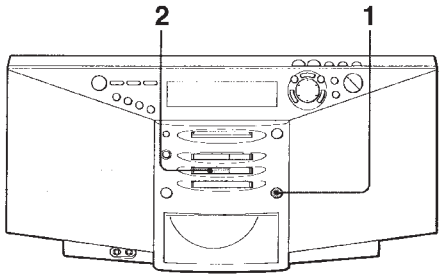
1 SLEEP button
2 CD OPEN/CLOSE button
3 Number button
4 MODE button
5 BASS/TREBLE+, – button
6 MEGA BASS button
7 MD operation button
► (play)
❚❚ (pause)
■ (stop)
● (REC)

8 CD operation button
► (play)
❚❚ (pause)
■ (stop)
9 Radio operation button
BAND
TUNER –, +
10 POWER button(US MODEL)
OPERATE button (EXCEPT US MODEL)
11 VOL +, – button
12 ⏮, ⏭ (AMS/SERCH) button

32 AM ANTENNA terminal
MW(LW) ANTENNA terminal
33 FM EXT ANTENNA terminal (US model)
ANTENNA SELECTOR switch (Except US model)
34 LINE IN (Analog) terminal
35 Antenna
36 RESET button
37 Power cord
38 FM EXT ANTENNA terminal (Except US model)

This section is extracted from instruction manual.

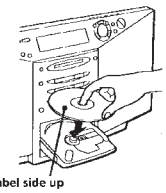
Playing a CD



Connect the AC power cord (see page 49).

1 CD OPEN/CLOSE

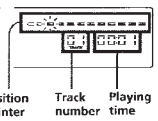
Press ⏏ CD OPEN/CLOSE (direct power-on) and place the CD on the CD tray until it clicks into place.



2 CD

Press CD ▶II.

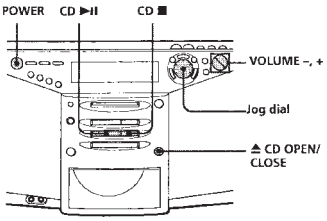
The CD tray closes and the player plays all the tracks once.



Tips

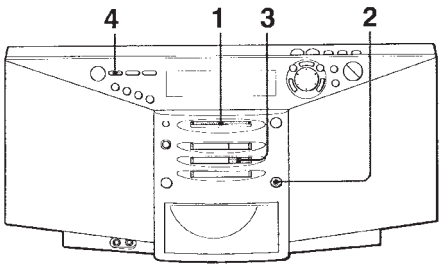
- Next time you want to listen to a CD, just press CD ▶II. The player turns on automatically and starts playing the CD.
- **What is the position pointer in the display?**
  It shows about where on the CD track the player is playing.

Use these buttons for additional operations



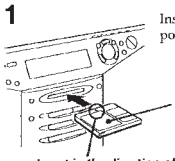
To	Do this
adjust the volume	Press VOLUME +, – (VOL +, – on the remote).
stop playback	Press CD ■.
pause playback	Press CD ▶II (CD II on the remote). Press the button again to resume play after pause.
go to the next track	Turn the jog dial clockwise. (On the remote, press ▶▶I.)
go back to the previous track	Turn the jog dial counterclockwise. (On the remote, press I◀◀.)
remove the CD	Press ⏏ CD OPEN/ CLOSE.
turn on/off the player	Press POWER.

Recording a whole CD
(Synchronized recording)



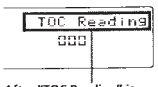
Connect the AC power cord (see page 49).

1



Insert a recordable MD (direct power-on).

Display

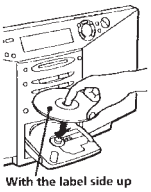


After "TOC Reading" is displayed, the disc name will be displayed if it is labeled.

2 CD OPEN/CLOSE

Press ⏏ CD OPEN/CLOSE and place the CD on the CD tray until it clicks into place.

Press ⏏ CD OPEN/CLOSE again to close the CD tray.



3 CD

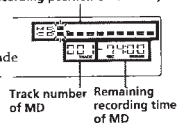
Press CD ■.

4 CD▶MD DISC ALL

Press DISC ALL.

The player starts recording automatically.

If the MD has any previous recording, recording will be made from the last recorded position.


Position pointer (showing playing position on the CD and recording position on the MD)
Track number of MD
Remaining recording time of MD

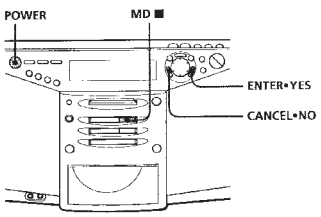
Notes

- **TOC EDIT After you stop recording, do not disconnect the AC power cord or move the player while "TOC EDIT" is flashing in the display.** If you do so, recording may not be done properly.
- When you record a whole CD, you cannot pause recording.

Tips

- Adjusting the volume or the audio emphasis (page 54) will not affect the recording level. Keep the volume at a moderate level so as to prevent the sound from skipping.
- To record over the previous recording, see page 28.
- Once the clock is set, the recording date and time are stamped automatically (page 42).

Use these buttons for additional operations



To	Press
stop recording	MD ■ or CD ■
turn on/off the player	POWER

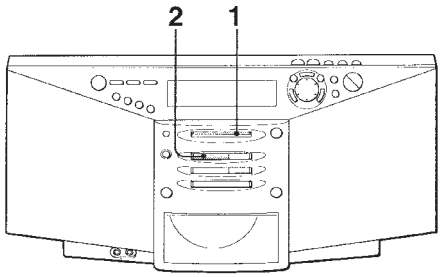
If "CD>MD OK?" alternates with time dislay

There is not enough space on the MD to record the whole CD.

If it is all right to record as much as possible and cancel recording of some tracks, press ENTER•YES. To stop recording, press CANCEL•NO.

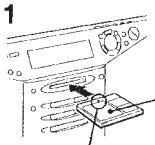
If any other messages are displayed, see page 64.

Playing an MD



Connect the AC power cord (see page 49).

1 Insert the MD (direct power-on).



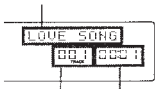
Display

After "TOC Reading" is displayed, the disc name will be displayed if it is labeled.

2 Press MD ▶II.

The player plays all the tracks once.

Track name is displayed if it is labeled.

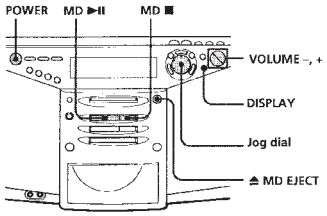


Track number — Playing time

Tip

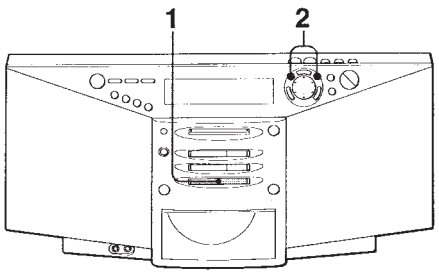
Next time you want to listen to a MD, just press MD ▶II. The player turns on automatically and starts playing the MD.

Use these buttons for additional operations



To	Do this
adjust the volume	Press VOLUME +, – (VOL +, – on the remote).
stop playback	Press MD ■.
pause playback	Press MD ▶II (MD II on the remote). Press the button again to resume play after pause.
go to the next track	Turn the jog dial clockwise. (On the remote, press ▶▶I.)
go back to the previous track	Turn the jog dial counterclockwise. (On the remote, press I◀◀.)
remove the MD	Press ▲ MD EJECT.
turn on/off the player	Press POWER.
check the playing position in the display using the position pointer	Press DISPLAY.

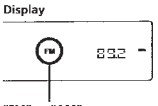
Listening to the radio



Connect the AC power cord (see page 49).

1 Press BAND until the band you want appears in the display (direct power-on).

Display



"FM" or "AM" appears

2 Hold down TUNE + or TUNE – until the frequency digits begin to change in the display.

The player automatically scans the radio frequencies and stops when it finds a clear station.

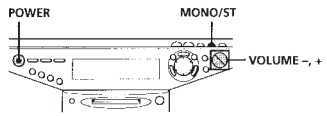
If you can't tune in a station, press TUNE + or TUNE – repeatedly until you tune in the station you want.

Indicates an FM stereo broadcast

Tips

- If the FM broadcast is noisy, press MONO/ST (MODE on the remote) until "MONO" appears in the display and radio will play in monaural.
- Next time you want to listen to the radio, just press BAND. The player turns on automatically and starts playing the previous station.

Use these buttons for additional operations

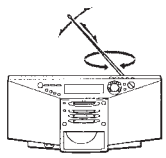


To	Press
adjust the volume	VOLUME +, – (VOL +, – on the remote)
turn on/off the radio	POWER

To improve broadcast reception

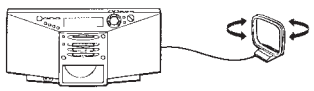
FM:

Reorient the aerial for FM.



AM:

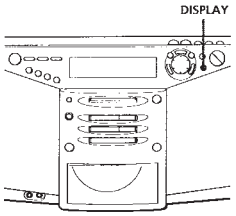
Keep the AM loop aerial as far as possible from the player and reorient it.



If the broad cast is still noisy, connect the external aerial (page 50).

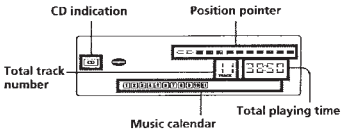
Using the display

You can check information about the CD and MD using the display.



During stop (CD)

The total track number and playing time are displayed.



If the CD has more than 20 tracks, "OVER 20" appears in the display.

During play (CD)

The current track number and playing time are displayed. The track numbers in the music calendar disappear after they are played.

Note

During repeat play (page 16), program play (page 17) and shuffle play (page 19), the number of tracks left and remaining time on the CD will not be displayed.

Tip

The disc name is displayed only with the MDs that have been electronically labeled.

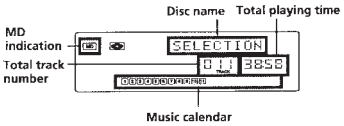
To check the remaining time

Press DISPLAY.

To display	Press DISPLAY
the current track number and remaining time on the current track	once
the number of tracks left and remaining time on the CD	twice
the current track number and playing time	three times

During stop (MD)

The total track number and playing time are displayed.



If the MD has more than 20 tracks, "OVER 20" appears in the display.

To check the remaining recording time on the MD

Press DISPLAY.

The position pointer also appears in the display.

continued

Using the display (continued)

Note

During repeat play (page 16), program play (page 17) and shuffle play (page 19), the number of tracks left and remaining time on the MD will not be displayed.

During play (MD)

The current track number, playing time and the track name are displayed. The track numbers in the music calendar disappear after they are played.

To check the remaining time, recording date and time, etc.

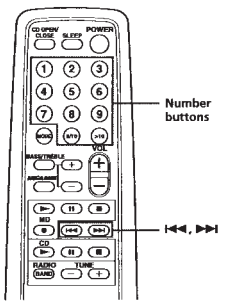
Press DISPLAY.

To display	Press DISPLAY
the current track number, remaining time on the current track and position pointer	once
the number of tracks left, remaining time on the MD and the disc name	twice
recording date and time*	three times
the current track number, playing time and the track name	four times

* Once the clock is set, the recording date and time are stamped automatically (page 42).

Locating a specific track

You can quickly locate any track on a CD or an MD using the number buttons. You can also find a specific point in a track while playing a CD or an MD.



Note

You cannot locate a specific track if "REPEAT PGM", "REPEAT SHUFFLE", "PGM" or "SHUFFLE" is lit in the display. Turn off the indication by pressing ■.

Tips

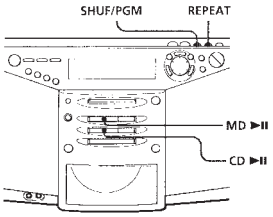
- To locate a track numbered over 10, press >10 first, then the corresponding number buttons.
  Example:
  To play the track number 23, press >10 first, then 2 and 3.
  To play the track number 10, you can use the 0/10 button as well as >10, 1 and 0.
- To select a track on an MD numbered 100 or more, press >10 twice, then the corresponding number buttons.

To locate	Press
a specific track directly	the number button of the track.
a point while listening to the sound	▶▶I (forward) or I◀◀ (backward) while playing and hold down until you find the point. (On the player, use ▶▶ or ◀◀.)
a point while observing the display	▶▶I (forward) or I◀◀ (backward) in pause and hold down until you find the point. (On the player, use ▶▶ or ◀◀.)

Playing tracks repeatedly

(Repeat Play)

You can play tracks repeatedly in normal, shuffle or program play modes (page 17).



On the remote

- During play, press MODE repeatedly until "REPEAT 1" or "REPEAT" appears in the display. During play, you cannot select "REPEAT SHUFFLE" or "REPEAT PGM".
- You can also select the repeat play during stop. Press MODE repeatedly until "REPEAT 1", "REPEAT", "REPEAT SHUFFLE" or "REPEAT PGM" appears in the display. Then, play the CD or the MD.

To repeat	Do this
a single track	1 Play the track you want. 2 Press REPEAT repeatedly until "REPEAT 1" appears in the display.
all the tracks	1 Start normal play. 2 Press REPEAT repeatedly until "REPEAT" appears in the display.
tracks in random order	1 Start shuffle play (page 19). 2 Press REPEAT repeatedly until "REPEAT SHUFFLE" appears in the display.
programed tracks	1 Start program play (page 17). 2 Press REPEAT repeatedly until "REPEAT PGM" appears in the display.

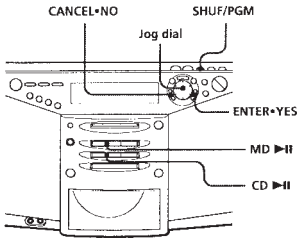
To cancel Repeat Play

Stop play first. Then, press REPEAT until "REPEAT" disappears from the display.

Creating your own program

(Program Play)

You can arrange the playing order of up to 20 tracks on a CD or an MD.



On the remote

Press MODE until "PGM" appears in the display, then press the number button to select the track.

Tip

If you made a mistake, press CANCEL•NO and re-enter the track number by turning the jog dial and press ENTER•YES.

Before you begin, make sure that the CD or MD player is in stop mode.

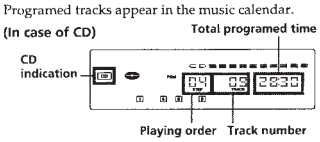
1 Press SHUF/PGM until "PGM" appears in the display.

2 Turn the jog dial to select the track you want to program, and press ENTER•YES.

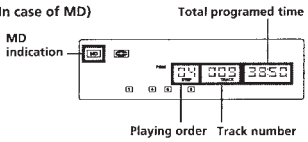
Repeat this step.

Programed tracks appear in the music calendar.

(In case of CD)



(In case of MD)



3 Press CD ▶II (or MD ▶II) to start program play.

continued

Creating your own program (Program Play) (continued)

Tips

- If the program play is finished, the program is saved. You can play the same program again by pressing ▶II.
- If you open the CD tray, the program is erased.
- If you take out the MD, the program is erased.
- During play, total programed time cannot be displayed.

To cancel Program Play

Stop play first. Then, press SHUF/PGM until "PGM" disappears from the display.

To check the order of tracks before play

Before starting the program play, press ENTER•YES.

"PGM Check" appears in the display. Every time you press ENTER•YES, the track number appears in the programed order.

To change the current program

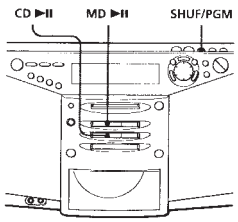
Change before starting the program play.

To	Do this
erase the last track in the program	1 Press CANCEL•NO. The track programed last is erased. 2 Re-enter the track numbers by turning the jog dial and pressing ENTER•YES.
change the whole program completely	1 Press ■ to erase the whole program. 2 Create a new program following the programing procedure.

Playing tracks in random order

(Shuffle Play)

You can play tracks in random order.



Tip

During shuffle play, you cannot select the previous track by turning the jog dial (or by pressing I◀◀ on the remote).

On the remote

Press MODE until "SHUFFLE" appears in the display.

Before you begin, make sure that the CD or MD player is in stop mode.

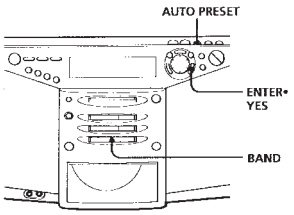
1 Press SHUF/PGM until "SHUFFLE" appears in the display.

2 Press CD ▶II (or MD ▶II) to start shuffle play.

To cancel Shuffle Play

Stop play first. Then, press SHUF/PGM until "SHUFFLE" disappears from the display.

Presetting radio stations



You can store radio stations into the player's memory. You can preset up to 24 stations, 12 for each band in any order.

1 Press BAND until the band you want appears in the display.

2 Hold down AUTO PRESET until "AUTO PRESET" flashes in the display.

The stations are stored in memory from the lower frequencies (from the preset number 1, in numerical order) as long as the station has a signal strong enough.

When you've done presetting, the station stored in the preset number 1 will be tuned in automatically.

On the remote

1 Press BAND until the band you want appears in the display.
2 Press TUNE + or – until you tune in the station you want.
3 Hold down the number button that you want to preset the new station on for 2 seconds.

To select the preset number 11 or 12, press >10 first, then press 1 or 2.

If a station cannot be preset automatically

You need to preset a station with a weak signal manually. Also, when you want to replace preset stations with a new one, proceed as follows:

1 Press BAND until the band you want appears in the display.

2 Press TUNE + or – repeatedly until you tune in the station you want, and then, hold down ENTER•YES for 2 seconds.

3 Select the preset number you want to preset the new station on by turning the jog dial.

4 Press ENTER•YES.

The new station replaces the old one.

To label the station

1 According to the procedure on page 22, tune in the station you want to label.

2 Press EDIT for 2 seconds.

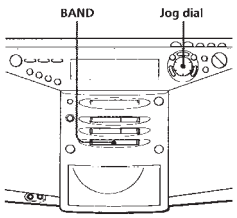
3 Input the name of the station (up to 12 characters).

For details , see steps 4 - 8 on pages 39 and 40.

To	Do this
move the cursor	Press ⇦ or ⇨.
select the characters	Turn the jog dial.
erase the characters	Press DELETE.
insert the characters	Use INSERT.

4 Press ENTER•YES.

Playing preset radio stations



Once you've preset the stations, use the jog dial on the player or the number buttons on the remote to tune in your favorite stations.

On the remote

To display the preset number you want in step 2, use the number buttons.

To select the preset number 10:

Press 0/10.

To select the preset number 11 or 12:

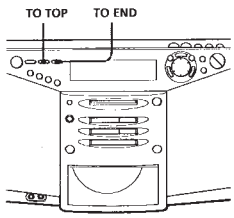
Press >10 first, then press 1 or 2.

1 Press BAND until the band you want appears in the display.

2 Turn the jog dial to display the preset number of the station you want.

Recording the track you are listening to

(Synchronized recording of a single track – REC IT Function)



You can record the track you are listening to from its beginning using the TO TOP or TO END button.

Notes

- **TOC EDIT After you stop recording, do not disconnect the AC power cord or move the player while "TOC EDIT" is flashing in the display.** If you do so, recording may not be done properly.
- If you turn up the volume too high, sound skipping may occur.

Tips

- To record over the previous recording, see page 28.
- Once the clock is set, the recording date and time are stamped automatically (page 42).

1 Insert a recordable MD.

2 Insert the CD and play the track you want to record.

3 Press TO TOP or TO END.

The player goes back to the beginning of the track you are listening to, and starts recording.

When you use a recorded MD:

To record before the previous recording, press TO TOP.

To record after the previous recording, press TO END.

When you use a new MD:

Press either TO TOP or TO END.

When recording is finished, MD player will stop operation automatically but CD player will continue play.

You can label the track during recording

1 Press EDIT.

2 Press DISPLAY repeatedly to select the type of characters.

3 Turn the jog dial to display the character you want and press ⇨.

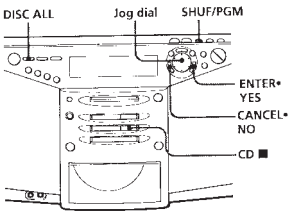
4 Repeat steps 2 and 3 to complete the entire name.

5 Press ENTER•YES.

For details, see pages 39 - 41.

Recording the tracks you programmed

(Synchronized recording of the tracks you programmed)



You can record the tracks you programmed.

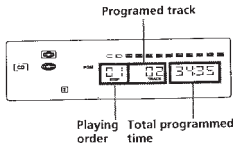
Tip

If you made a mistake, press CANCEL•NO and re-enter the track number using the jog dial and ENTER•YES.

1 Insert a recordable MD.
2 Insert the CD you want to record and press CD ■.
3 Press SHUF/PGM until "PGM" appears in the display.
4 Turn the jog dial to select the track you want to program, and press ENTER•YES.

Repeat this step.

Programmed tracks appear in the music calendar.



5 Press DISC ALL.

The player starts recording automatically.

If the MD has any previous recording, recording will be made from the last recorded position.

Notes

- **TOC EDIT After you stop recording, do not disconnect the AC power cord or move the player while "TOC EDIT" is flashing in the display.** If you do so, recording may not be done properly.
- If you turn up the volume too high, sound skipping may occur.

Tips

- To record over the previous recording, see page 28.
- Once the clock is set, the recording date and time are stamped automatically (page 42).

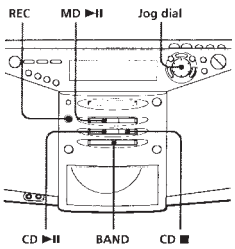
If "CD>MD OK?" alternates with time dislay

There is not enough space on the MD to record the whole program.

If it is all right to record as much as possible and cancel recording of some tracks, press ENTER•YES. To stop recording, press CANCEL•NO.

If any other messages are displayed, see page 64.

Recording from the radio or a CD



You can record from the radio or a CD to an MD using the REC button. You can start or stop recording at any point you want. You can also pause recording.

Notes

- **TOC EDIT After you stop recording, do not disconnect the AC power cord or move the player while "TOC EDIT" is flashing in the display.** If you do so, recording may not be done properly.
- While recording from radio, you cannot change the station.
- If you turn up the volume too high, sound skipping may occur.

Tips

- To add track marks during recording, press REC where you want to add track marks.
- To record over the previous recording, see page 28.
- To add track marks after recording, see "Dividing recorded tracks" on page 34.

Recording from the radio

When receiving conditions are good, track marks are added on the MD automatically:

– when there is no sound input during recording for more than 2 seconds.
– when a soft sound like pianissimo continues during recording.
– when you pause recording.

If unnecessary track marks are added, erase them after recording (see "Combining recorded tracks" on page 36).

1 Tune in the station you want to record from.
2 Insert a recordable MD.
3 Press REC (● on the remote).

Recording does not start (recording standby mode).

4 Press MD ▶II (MD ► or MD II on the remote).

Recording will be made from the last recorded position.

To stop recording

Press MD ■.

Tip

When you record a program of a station whose name is labeled on this player, the station name is recorded automatically as the track name (page 21).

Notes

- **TOC EDIT After you stop recording, do not disconnect the AC power cord or move the player while "TOC EDIT" is flashing in the display.** If you do so, recording may not be done properly.
- If you turn up the volume too high, sound skipping may occur.

Tips

- To add track marks during recording, press REC where you want to add track marks.
- To record over the previous recording, see page 28.
- To add track marks after recording, see "Dividing recorded tracks" on page 34.

To pause recording

Press MD ▶II. Press the button again to resume recording. (On the remote, use MD II instead of MD ▶II.)

Recording from a CD

Track marks on the source CD are recorded on the same positions on the MD. Track marks are also added automatically on the MD when you pause recording.

If unnecessary track marks are added, erase them after recording (see "Combining recorded tracks" on page 36).

1 Insert a CD.
2 Press CD ■ to activate the CD player.
3 Insert a recordable MD.
4 Press REC (● on the remote).

Recording does not start (recording standby mode).

5 Press MD ▶II (MD ► or MD II on the remote).

Recording will be made from the last recorded position.

6 Press CD ▶II.

To stop recording

Press MD ■.

To pause recording

Press MD ▶II. Press the button again to resume recording. (On the remote, use MD II instead of MD ▶II.)

Recording on a recorded MD

There are two ways of recording on a recorded MD.

- To add to the previous recording. The previous recording will remain.
- To record over the previous recording. The previous recording will be erased.

Adding recording (the previous recording will remain)

Insert a recorded MD, and start recording (pages 6, 26 and 27). Recording will be made from the last recorded position.

If there is not enough space on the MD to record

When recording a whole CD, "CD>MD OK?" appears in the display (page 7). When recording from the radio or a CD, press DISPLAY to check the recording remaining time on the MD.

Recording over the previous recording (the previous recording will be erased)

To record over from the beginning of the MD after erasing all tracks on the MD

First, erase all tracks on an MD (page 32). You can use the MD the same as a new one. Then, record on the MD as usual.

To record over from a specific point on the MD

1 Play the MD and press MD ▶II to pause play at the point you want to start recording.

2 Press REC to make the player in standby mode.

3 Play the sound source.

4 Press MD ▶II to start recording.

Note

When recording over from a specific point on the MD:

If the new recording is shorter than the previous recording, a part of the previous recording will remain after the recording. As you repeat this type of recording, many fragments of recording will remain on the MD. We recommend that you erase all tracks on the MD (page 32) if you no longer need to keep the recording. Then, start recording on the blank MD.

Before editing

On the MD, track marks are inserted between the tracks. You can find the beginning of the tracks quickly using the track marks. You can change the positions of the track marks. For instance, you can divide a certain track into several tracks by adding track marks. You can also combine some tracks into a new longer track by erasing some track marks.

The position of the track marks to be added are different depending on the type of recording or recording conditions

The type of recording	The position of the track marks to be added
Recording a whole CD (page 6)	The same positions on the source CD
Recording from a CD using REC button (page 27)	• The same positions on the source CD • The position where you pause recording • The position where you press REC
Recording from the radio or other equipment connected to the player (pages 26 and 52)	• When there is no sound input or a soft sound continues during recording for more than two seconds • The positions where you pause recording • The positions where you press REC

You can add or erase track marks after recording. When you record, for instance, from a radio or other equipment connected to the player, track marks may be added to the positions you do not want. If that happens, change the positions of the track marks to those you want.

Change the track marks correctly

- To erase a track mark → "Combining recorded tracks (Combine Function)" (page 36): You can combine two tracks into a single one by erasing the track mark between the two tracks.
- To add a track mark → "Dividing recorded tracks (Divide Function)" (page 34): You can divide one track into two tracks by adding a track mark.

continued

Before editing (continued)

You can also use the following functions

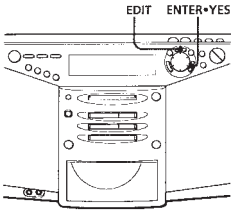
- Erasing a single track → "Erasing recordings (Erase Function)" (page 31)
- Erasing all tracks on an MD → "Erasing recordings (Erase Function)" (page 32)
- Changing the order of the tracks → "Moving recorded tracks (Move Function)" (page 38)
- Locating any point in the track quickly → "Dividing recorded tracks (Divide Function)" (page 34)
- Combining several independently recorded portions into a single track → "Erasing recordings (Erase Function)" (page 31) and "Combining recorded tracks (Combine Function)" (page 36)

Note

TOC EDIT **After you stop recording, do not disconnect the AC power cord or move the player while "TOC EDIT" is flashing in the display.** If you do so, recording may not be done properly.

Erasing recordings

(Erase Function)



You can quickly erase the recorded tracks or unnecessary portion in the track. Unlike a cassette-corder, blank portion will not remain after erasure.

Here are three options to erase recordings:

- Erasing a single track
- Erasing all tracks on an MD
- Erasing a portion of a track

Notes

- If "Protected" appears in the display, the tab on the MD is in the record-protect position (page 56).
- TOC EDIT **After you stop recording, do not disconnect the AC power cord or move the player while "TOC EDIT" is flashing in the display.** If you do so, recording may not be done properly.

Erasing a single track

You can erase a whole track quickly. When you erase a track, the total number of tracks on the MD decreases by one and all tracks following the erased one are renumbered.

1 Play the track you want to erase.

2 Press EDIT repeatedly until "Track Erase" appears in the display.

3 Press ENTER•YES.

"Erase OK?" appears in the display, and one-track repeat play starts. Once you have erased a track, you cannot recover it. Be sure to check the contents of the track you are trying to erase.

If you want to cancel the erase function at this point:

Press CANCEL•NO or MD ■.

4 Press ENTER•YES.

"Complete" appears in the display for a few seconds, and the current track will be erased.

continued

Note

TOC EDIT **After you stop recording, do not disconnect the AC power cord or move the player while "TOC EDIT" is flashing in the display.** If you do so, recording may not be done properly.

Erasing all tracks on an MD

You can erase the disc name, all recorded tracks and their names at the same time. After you have erased all tracks on the MD, you can use it as a new MD.

1 While the player is stopped, press EDIT repeatedly until "All Erase" appears in the display.

2 Press ENTER•YES.

"Erase OK?" appears in the display. Once you have erased a track, you cannot recover it. Be sure to check the contents of the track you are trying to erase.

If you want to cancel the erase function at this point:

Press CANCEL•NO or MD ■.

3 Press ENTER•YES.

After "TOC EDIT" disappears from the display, "Blank Disc" appears in the display, and all contents on the MD are erased.

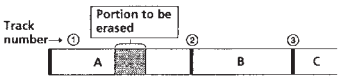
Note

TOC EDIT **After you stop recording, do not disconnect the AC power cord or move the player while "TOC EDIT" is flashing in the display.** If you do so, recording may not be done properly.

Erasing a portion of a track

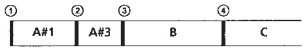
By using the Divide (page 34), Erase (page 31) and Combine (page 36) functions, you can erase specific portions of a track.

Example: Erasing a portion of track A



1 Divide A into three parts (page 34).

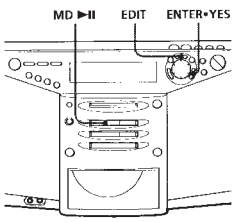
2 Erase A#2 (page 31).



3 Combine A#1 and A#3 (page 36).

Dividing recorded tracks

(Divide Function)



When recording from the radio, etc., track marks may not be added correctly. A number of tracks may be included in a single track. You can divide these tracks into separate tracks, and add a new track mark to each track. All tracks following the divided tracks are renumbered.

Tips

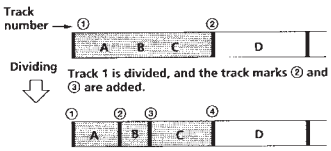
- To put the divided tracks together, see "Combining recorded tracks" on page 36.
- To divide a track during recording, press REC at the point where you want to add the track mark.

Note

If "Sorry" appears in the display, you cannot divide the track.

If you repeat editing on the MD, you may not be able to divide a track. This is due to the system limitations of the MD (page 57), but not caused by malfunction.

Example: Dividing track 1 into three tracks



1 While playing the MD, press MD ▶II at the point where you want to create a new track.

The player pauses.

2 Press EDIT repeatedly until "Divide" appears in the display.

3 Press ENTER•YES.

"Divide OK?" appears in the display.

If you want to cancel the divide function at this point:

Press CANCEL•NO or MD ■.

Note

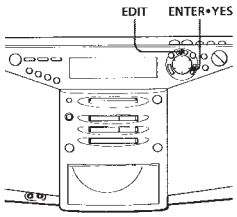
TOC EDIT **After you stop recording, do not disconnect the AC power cord or move the player while "TOC EDIT" is flashing in the display.** If you do so, recording may not be done properly.

4 Press ENTER•YES.

"Complete" appears in the display for a few seconds after the track is divided. The original track only has the track name, while the new track has no name (this happens only when the track you divided had its track name). One track is added to the music calendar.

Combining recorded tracks

(Combine Function)

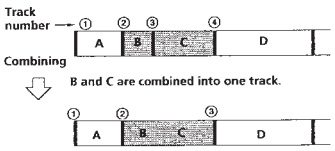


You can combine two adjacent tracks into a single one. Using the combine function, you can combine a number of fragmented recordings or delete the unnecessary track marks. All tracks following the combined track are renumbered.

Notes

- If "Sorry" appears in the display, you cannot combine the tracks.
  If you repeat editing on the MD, you may not be able to combine the tracks. This is due to the system limitations of the MD (page 57), but not caused by malfunction.
- If "Cannot Edit" appears in the display, you may be trying to combine the tracks on the first track. You cannot use the combine function on the first track.

Example: Combine the tracks B and C



1 Play the track you want to combine.

Example: To combine tracks B and C, play the track C.

2 Press EDIT repeatedly until "Combine" appears in the display.

3 Press ENTER•YES.

"Combine OK?" appears in the display; the player enters the playback pause mode.

If you want to cancel the combine function at this point:

Press CANCEL•NO or MD ■.

Note

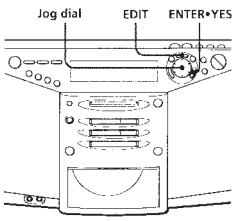
TOC EDIT **After you stop recording, do not disconnect the AC power cord or move the player while "TOC EDIT" is flashing in the display.** If you do so, recording may not be done properly.

4 Press ENTER•YES.

"Complete" appears in the display for a few seconds after the tracks are combined. If both of the combined tracks had track names, the name of the latter track is erased. The total number of tracks in the music calendar decreases by one.

Moving recorded tracks

(Move Function)

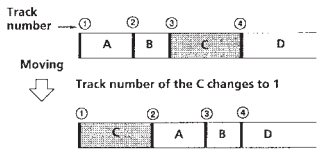


You can change the order of the tracks. After you move the track, the track numbers are renumbered automatically.

Note

TOC EDIT **After you stop recording, do not disconnect the AC power cord or move the player while "TOC EDIT" is flashing in the display.** If you do so, recording may not be done properly.

Example: Moving C to the position of track 1



1 Play the track you want to move.

2 Press EDIT repeatedly until "Track Move" appears in the display.

3 Press ENTER•YES.

"→Track 003?" appears in the display, and one-track repeat play starts.

4 Turn the jog dial to select the new track position.

If you want to cancel the move function at this point:

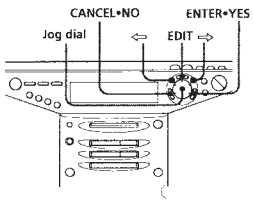
Press CANCEL•NO or MD ■.

5 Press ENTER•YES.

"Complete" appears in the display for a few seconds after the track is moved.

Labeling recordings

(Name Function)



You can label the MDs and the tracks you have recorded with letters, numbers and symbols. Each label can be made up of up to 100 characters. You can input up to about 1,700 characters into each MD.

Labeling an MD

1 Insert the MD you want to label, and stop the MD play.

2 Press EDIT repeatedly until "Disc Name" appears in the display.

3 Press ENTER•YES.

If the disc name has been already labeled, the disc name appears in the display.

4 Press DISPLAY repeatedly to select the type of characters.

Each time you press DISPLAY, the character changes as follows: Uppercase letters → Lowercase letters → Numbers and symbols.

You can use the following characters:

The type of characters	Characters (symbols)
Uppercase letters	ABCD.....WXYZ',/: ␣ (space)
Lowercase letters	abcd.....wxyz',/: ␣ (space)
Numbers and symbols	0123456789!"#$%&()*.;<=>? @_`+ -',/:␣(space)

continued

Note

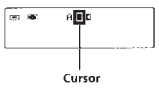
TOC EDIT **After you stop recording, do not disconnect the AC power cord or move the player while "TOC EDIT" is flashing in the display.** If you do so, recording may not be done properly.

5 Turn the jog dial counterclockwise or clockwise to select the characters.

6 Press ⇨.

The cursor shifts rightward and waits for the input of the next character.

Display



7 Repeat steps 4 through 6 to complete the entire name.

8 Press ENTER•YES.

The name has been labeled on the MD.

Labeling a track

1 Play the track you want to label.

2 Press EDIT repeatedly until "Track Name" appears in the display.

3 Press ENTER•YES.

One-track repeat play starts. If the track name has been already labeled, the track name appears in the display.

4 Input the characters according to steps 4 through 8 of "Labeling an MD."

The name has been labeled on the track.

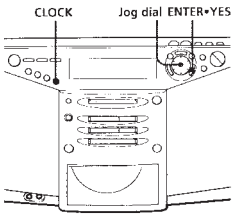
To change the characters

- **To add characters after the existing characters**
  1. Move the cursor to the right of the last character using ⇨.
  2. Turn the jog dial to select the character.
  3. Press ENTER•YES.
- **To change the characters**
  1. Move the cursor to the character you want to change using ⇨.
  2. Turn the jog dial to select the character.
  3. Press ENTER•YES.
- **To delete the character**
  1. Move the cursor to the character you want to delete using ⇨.
  2. Press DELETE. If you press DELETE repeatedly, the characters will be deleted one after another.
  3. Press ENTER•YES.
- **To insert a character**
  1. Move the cursor to the place you want to add a character using ⇨.
  2. Press INSERT to make a space between the characters.
  3. Turn the jog dial to select the character.
  4. Press ENTER•YES.

Setting the clock

"- -y - -m - -d" and "- -:- -" indications appear in the display until you set the clock.

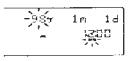
Once the clock is set, the recording date and time are stamped automatically (pages 7, 23 and 25).



Tips

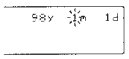
- The time display system of this player is the 12-hour system.
- You can set the clock of this player any time, no matter whether power is on or off.

1 Press and hold CLOCK until the year digits flash.

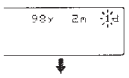


2 Set the date.

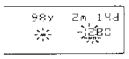
① Turn the jog dial to set the year and press ENTER•YES.



② Turn the jog dial to set the month and press ENTER•YES.



③ Turn the jog dial to set the day and press ENTER•YES.



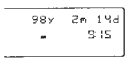
3 Set the time.

① Turn the jog dial to set the hour and press ENTER•YES.

② Turn the jog dial to set the minutes and press ENTER•YES.

4 Press ENTER•YES.

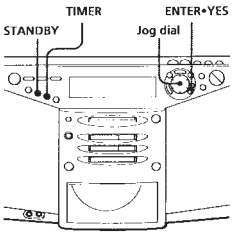
The clock starts from 00 seconds.



To display the time

Press CLOCK. To go back to the previous display, press CLOCK again. As long as the power is turned off, the time indication is displayed.

Waking up to music



You can wake up to music or a radio program at a preset time.

Make sure you have set the clock (see "Setting the clock" on page 42).

Note

You cannot preset waking up timer and recording timer (page 46) at the same time.

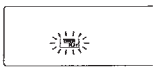
Before you begin, make sure "TIMER PLAY" or "TIMER REC" is not displayed. If either one is displayed, press STANDBY.

1 Prepare the music source you want to play.

Source	Do this
CD	Insert a CD.
MD	Insert an MD.
RADIO	Tune in the station.
LINE	Turn on the equipment connected to LINE IN.

2 Press TIMER.

"TIMER PLAY" or "TIMER REC" flashes in the display.



Make the following settings by checking the indications in the display.

3 Turn the jog dial until "TIMER PLAY" flashes in the display, and press ENTER•YES.

"MD", "CD", "RADIO" or "LINE" flashes in the display.

4 Turn the jog dial until the music source you want to play ("MD", "CD", "RADIO" or "LINE") appears in the display, and press ENTER•YES.

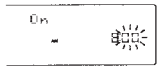
Tip

If you made a mistake, press CANCEL•NO. The setting entered last will be cleared. Re-enter it.

Tips

- To exit the standby mode, press STANDBY to make either "TIMER PLAY" or "TIMER REC" disappear from the display.
- The preset settings remain until you reset them.
- As long as the ⏲ indication appears in the display, the player is in timer mode.

5 Set the timer to the hour and the minutes you want the music to go on.



① Turn the jog dial to set the hour and press ENTER•YES.

② Turn the jog dial to set the minutes and press ENTER•YES.

6 Set the timer to the hour and the minutes you want the music to go off (Do as step 5.).

7 Turn the jog dial to set the volume you want, and press ENTER•YES.

8 Press STANDBY.

"TIMER PLAY" lights up; the player enters the standby mode.

At the preset time, the power will go on and music will play. Then the power will go off at the preset time, and the player will enter the standby mode again.

To check/change the waking up timer settings

Press TIMER, then press ENTER•YES. Each time you press ENTER•YES, a stored setting is displayed in the set order. To change the setting, display the setting you want to change and re-enter it.

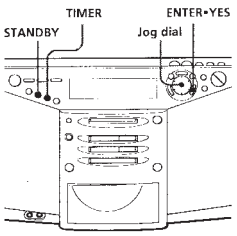
To use the player before a timer playback starts

If you turn on the player, you can use it as usual (in case of the radio, if you listen to the station which is different from the one you tuned in step 1 on page 44, you will hear that station at the preset time.) Turn off the player before the preset time.

To stop play

Turn off the power.

Timer-recording radio programs



You can set timer to record the radio at a certain time. You can also record from the component connected to the LINE IN jack of the player.

Make sure you have set the clock (see "Setting the clock" on page 42).

Notes

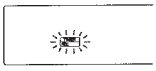
- You cannot preset recording timer and waking up timer (page 44) at the same time.
- When recording from the component connected to the LINE IN jack of the player, refer to the operating instructions of the component.

Before you begin, make sure "TIMER PLAY" or "TIMER REC" is not displayed. If either one is displayed, press STANDBY.

1 Tune in the radio station and insert an MD.

2 Press TIMER.

"TIMER PLAY" or "TIMER REC" flashes in the display.



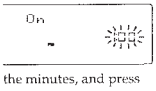
Make the following settings by checking the indications in the display.

3 Turn the jog dial until "TIMER REC" flashes in the display, and press ENTER•YES.

4 Turn the jog dial until "RADIO" flashes in the display, and press ENTER•YES.

When recording from the component connected to the LINE IN jack of the player, turn the jog dial until "LINE" flashes in the display, and press ENTER•YES.

5 Set the timer to the hour and the minutes you want to start recording.



① Turn the jog dial to set the hour and press ENTER•YES.

② Turn the jog dial to set the minutes, and press ENTER•YES.

Tip

If you made a mistake, press CANCEL•NO. The setting entered last will be cleared. Re-enter it.

Tips

- To exit the standby mode, press STANDBY to make either "TIMER REC" or "TIMER PLAY" disappear from the display.
- The preset settings remain until you reset them.
- As long as the ⏲ indication appears in the display, the player is in timer mode.

6 Set the timer to the hour and the minutes you want to stop recording. (Do as step 5.)

7 Turn the jog dial to set the volume you want, and press ENTER•YES.

8 Press STANDBY.

"TIMER REC" is displayed, and the player enters the standby mode.

At the preset time, the power will go on and the recording will start. Then the power will go off at the preset time, and the player will enter the standby mode again.

To check/change the recording timer settings

Press TIMER, then press ENTER•YES. Each time you press ENTER•YES, a stored setting is displayed in the set order. To change the setting, display the setting you want to change and re-enter it.

To use the player before a timer-recording starts

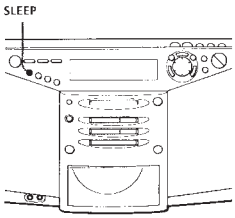
If you turn on the player, you can use it as usual (in case of the radio, if you listen to the station which is different from the one you tuned in step 1 on page 46, you will hear that station at the preset time.) Turn off the player before the preset time.

To stop timer-recording

Turn off the power.

Falling asleep to music

You can set the player to turn off automatically after 10, 20, 30, 60, 90 and 120 minutes, allowing you to fall asleep while listening to music.



On the remote
Press SLEEP repeatedly to select the minutes for the sleeping timer.

Tips
- You can combine the waking up timer with the sleeping timer. Set the waking up timer first (page 44), turn on the player, and then set the sleeping timer.
- You can prepare the different music for the waking up timer and the sleeping timer. However, you cannot store different radio stations.
- You can set different volume for the waking up timer and the sleeping timer. For instance, you can sleep at lower volume and wake up at higher volume.

1 Play the music source you want.
2 Press SLEEP until "SLEEP" appears in the display.
3 Press SLEEP to select the minutes for the sleeping timer.

Each time you press the button, the indication changes as follows: "10" → "20" → "30" → "60" → "90" → "120" → no indication.

If 4 seconds have passed after you pressed SLEEP, the minutes in the display are entered.

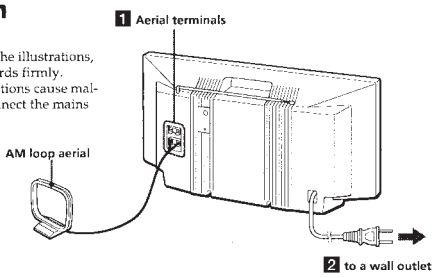
The preset time has passed, the player goes off automatically.

To cancel the sleep function
Press SLEEP to make "SLEEP" disappear from the display.

To change the preset time
Do the steps 2 and 3 again.

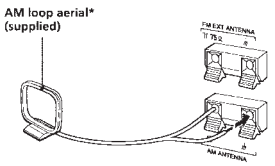
Preparing the system

According to the illustrations, connect the cords firmly. Wrong connections cause malfunctions. Connect the mains lead last.



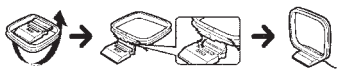
Note
Keep the AM loop aerial away as far as possible from the player. If you do not, noise may be heard.

1 Hooking up the aerial



*Reorient the aerial to improve broadcast reception

Setting up the AM loop aerial



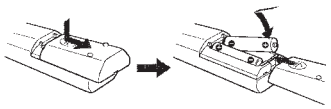
2 Connecting the AC power cord

Connect the AC power cord to the wall outlet.

continued

Tips
- This player has two ∩ (headphones) jacks so that two persons listen to the same music together.
  When using the ∩ jack marked with ••, you can also listen to the sound through the speakers. You can enjoy the surround sound using optional cordless stereo headphones system such as MDR-IF520RK and transmitter.
- The sound quality may be changed depending on the polarity of the plug. Change the direction of inserting the plug and check the sound quality.

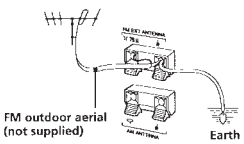
3 Inserting batteries into the remote



Insert two size AA (R6) batteries (not supplied)

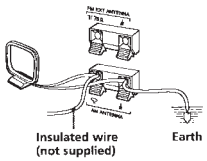
Replacing batteries
With normal use, the batteries should last for about six months. When the remote no longer operates the player, replace all the batteries with new ones.

To improve the FM reception
Connect the FM outdoor aerial (not supplied). If you use a distributor, you can also use the TV aerial.



Important
When you use an outdoor aerial, be sure to connect the ⏚ terminal to earth against lightning. To prevent a gas explosion, do not connect the ground wire to a gas pipe.

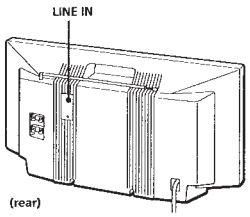
To improve the AM reception
Connect a 6- to 15-meter (20- to 50 feet) (not supplied) insulated wire to the AM ANTENNA terminal. Keep the wire as horizontal as possible near the window or outdoor. You do not need to disconnect the supplied AM loop aerial.



Connecting optional components

You can enjoy the sound from a TV or VCR through the speakers of this player.

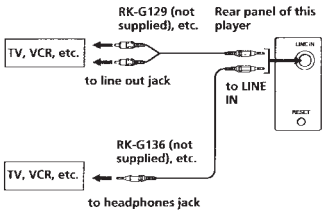
Be sure to turn off the power of each component before making connections. For details, refer to the instructions of the component to be connected.



Note

Connect the cords firmly to avoid any malfunction.

Connecting a TV or a VCR



After finishing the connections, turn on the player, and press LINE on the front panel to display "LINE".

Tip

If there is no sound input for more than 2 seconds during recording, a track mark is stamped automatically.

Recording the sound from the connected components

1 Insert a recordable MD.

2 Press LINE on the front panel to display "LINE".

3 Press REC.

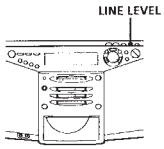
Recording does not start (recording standby mode).

4 Press MD ▶II.

5 Play the optional component connected to the LINE IN jack of the player.

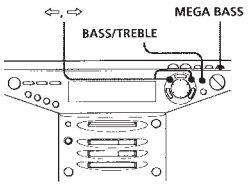
If the volume of the component connected to the LINE IN jack is too high

Press LINE LEVEL to display "Level: High" or reduce the volume of the connected component.



Adjusting the audio emphasis

You can adjust the audio emphasis of the bass sound or the bass/treble sound you are listening to.



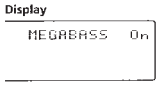
Note

When the volume is too high, the sound adjustments may not be effective.

Reinforcing the bass sound

Press MEGA BASS until "MEGABASS On" appears in the display.

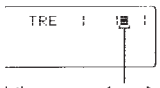
Display



Adjusting the bass/treble sound

1 Press BASS/TREBLE to select "BASS" or "TRE" (treble).

2 Adjust the bass or treble sound using ⇦ or ⇨.



Each time you press ⇦ or ⇨, the cursor moves left or right. As the cursor moves rightward, the level will be turned up. As the cursor moves leftward, the level will be turned down.

System limitations of the MD

The recording system in your MiniDisc recorder is radically different from those used in cassette and DAT decks and the system has limitations described below. Note, however, that these limitations are due to the inherent nature of the MD recording system itself and not to mechanical causes.

"Disc Full" appears in the display even before the MD has reached the maximum recording time (60 or 74 minutes)

When 254 tracks have been recorded on the MD, "Disc Full" appears regardless of the total recorded time. More than 254 tracks cannot be recorded on the MD. To continue recording, erase unnecessary tracks.

"Disc Full" appears in the display even before the MD has reached the maximum track number or recording time.

Repeated recording and erasing may cause fragmentation and scattering of data. Although those scattered data can be read, each fragment is counted as a track. In this case, the number of tracks may reach 254 and further recording is not possible. To continue recording, erase unnecessary tracks.

The remaining recording time does not increase even after erasing numerous short tracks

Tracks under 12 seconds long are not counted, so erasing them may not increase the recording time.

Some tracks cannot be combined with others

Track combination may become impossible when tracks are under 12 seconds long.

The total recorded time and the remaining time on the MD may not reach the maximum recording time (60 or 74 minutes)

Recording is done in minimum units of 2 seconds each, no matter how short the material. The contents recorded may thus be shorter than the maximum recording capacity. Disc space may also be further reduced by scratches.

The sound may dropout while fast-fowarding or rewinding the edited tracks.

Tracks created through editing may exhibit sound dropout during fast-forwarding or rewinding because high-speed playback takes time to search for the position on the disc when the tracks are scattered on the disc.

continued

Guide to the serial copy management system

Digital audio equipment such as CDs, MDs, DATs, etc., copy music easily with high quality, for these products process music as a digital signal. The Serial Copy Management System allows you to make only a single copy of a recorded digital source through digital-to-digital connections because music programmes may be copyrighted.

This system is applied to this player.

You can make only a first-generation copy* through a digital-to-digital connection.

That is :

1 You can make a copy of a digital sound programme on the market such as CDs, MDs, etc., but you cannot make a second copy from the first-generation copy.

2 You can make a copy of a digital signal from a digitally-recorded analog sound programme on the market such as an analog record, music cassette tape, etc., or from digital satellite broadcasts, but you cannot make a second copy.

Note

No restrictions apply when a digital signal is recorded as an analog signal (that is, when a digital signal is recorded throgh analog-to-analog connection.)

* A first-generation copy is a digital recording of a digital signal made on digital audio equipment through a digital-to-digital connection.
During recording, "DIGITAL REC" appears in the display on this player.

Error messages

If the player cannot perform an MD or a CD operation, one of the following error messages may flash in the display window.

This message will flash	If
Blank Disc	you try to play an MD with no recording on it.
Cannot Edit	you try to use the combine function on the first track of the MD.
Disc Error	the player cannot read the MD (it is scratched or dirty).
Disc Full	there is no more space for recording or editing on the MD. (See "System limitations of the MD" on page 57.)
Name Full	the labeling capacity of the MD has reached its limit. Each label can be made up of up to 100 characters. You can input up to about, 1,700 characters into each MD.
No Disc	you try to play or record with no CD or MD in the player.
No MD	you try to play or record with no MD in the player (in case of synchronized recording, etc.)
PB Disc	you try to record or edit on a pre-mastered MD (PB means playback).
Protected	you try to record or edit on an MD with the tab in the record-protect position.
Sorry	you try to edit, ignoring the system limitations of the MD.
Trk Protect	you try to record or edit a track that has been already protected using other MD recorders

SECTION 3
DISASSEMBLY

● The equipment can be removed using the following procedure.

< MAIN BLOCK SECTION >

Set → Cabinet (Front) ASSY → Left key board, Front key board, Top key board, Right board, Relay board

Set → Cabinet (Rear) ASSY → FL board, Trans board, Tuner board, FM ANT board, AM ANT board

Set → Cabinet (Rear) ASSY → MD chassis ASSY → MD Block ASSY, Filter board

Set → Cabinet (Rear) ASSY → MD chassis ASSY → Audio board, HP board, Line in board

Set → Cabinet (Rear) ASSY → MD chassis ASSY → Main board → CD block ASSY

< MD BLOCK SECTION >

MD Block ASSY → Shiled case (Top, Bottom) → DG board → BD board → Sub chassis ASSY → Shutter ASSY

MD Block ASSY → Shiled case (Top, Bottom) → MD mechanism deck

MD Block ASSY → Shiled case (Top, Bottom) → SW board, Slider ASSY, "Head, Over wright" → MD Optical pick-up block

< CD BLOCK SECTION >

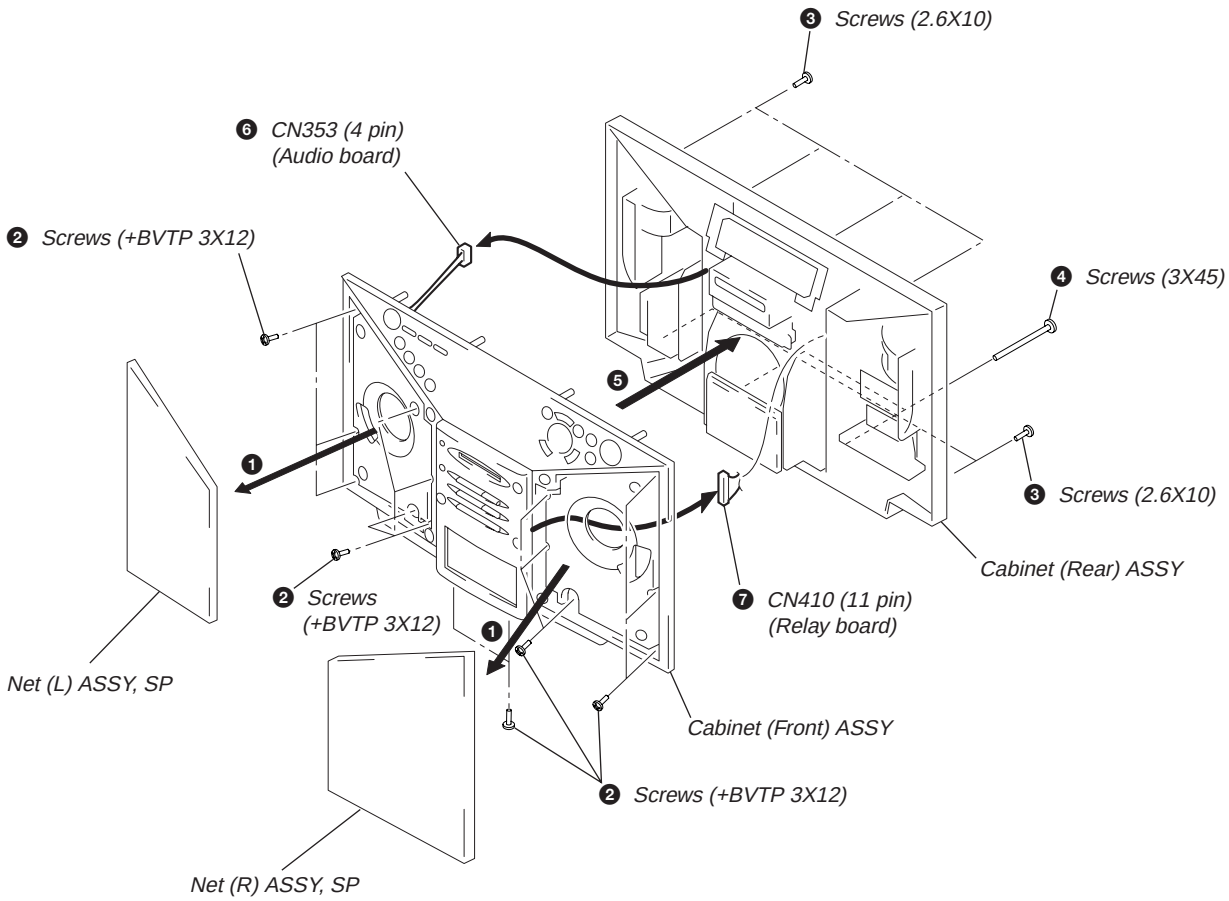
CD block ASSY → Loading board

CD block ASSY → "Tray ASSY, CD" → CD Optical pick-up block, Pick-up relay board

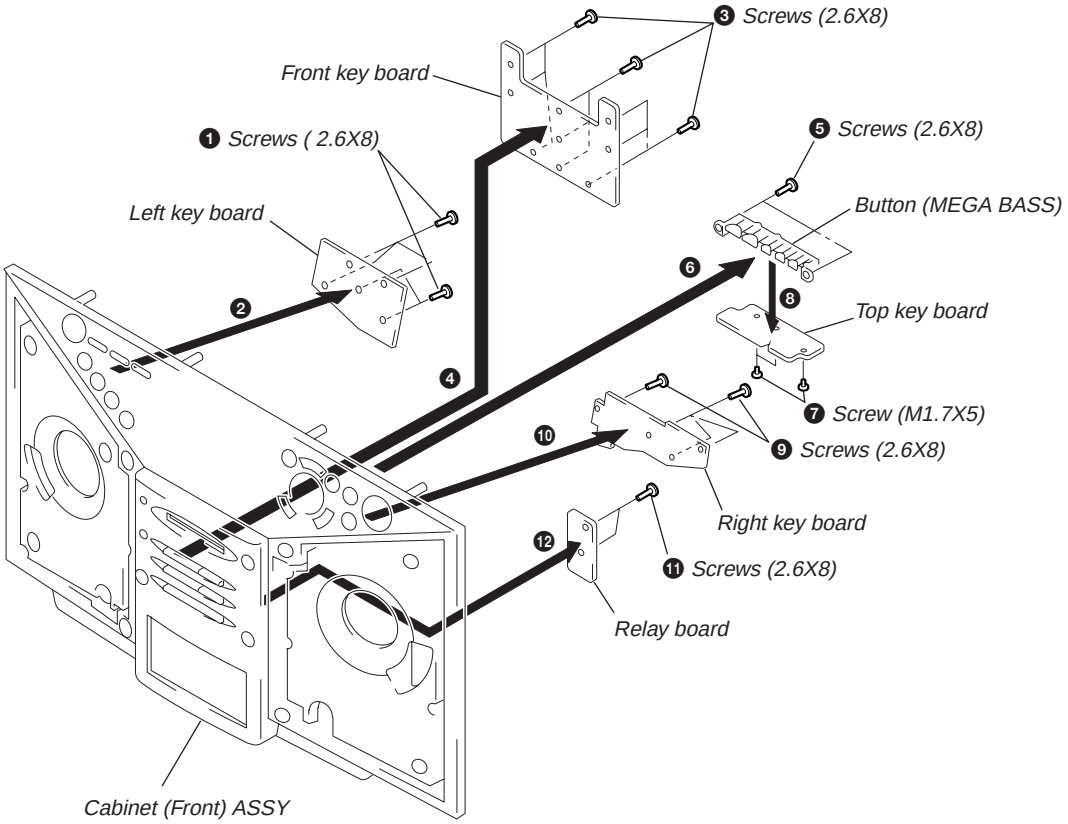
Note : Follow the disassembly procedure in the numerical order given.

< MAIN BLOCK SECTION >

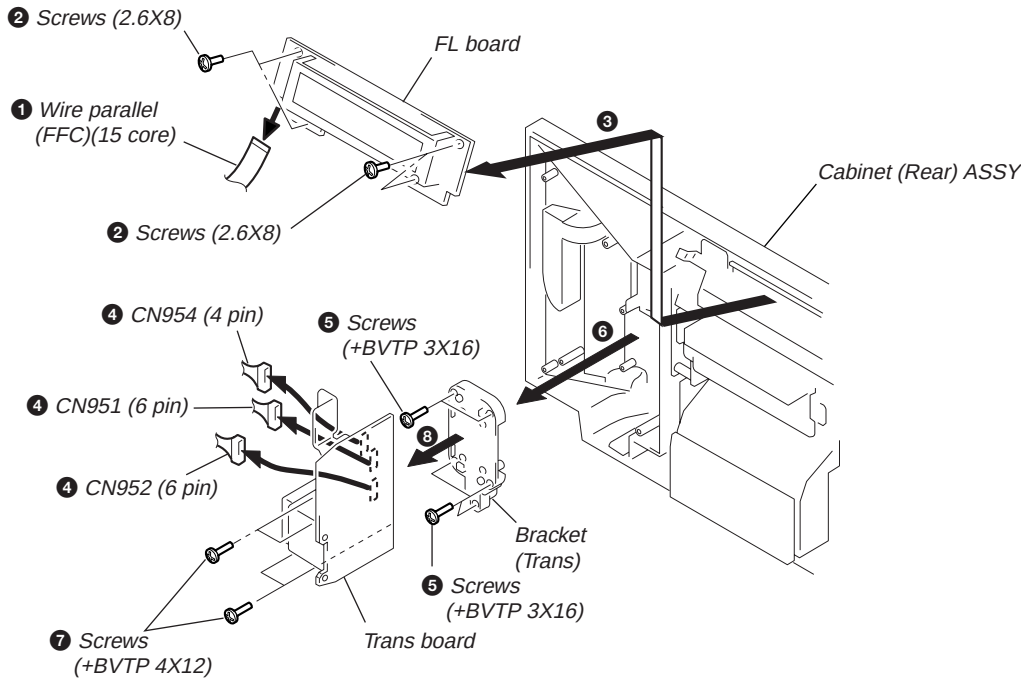
3-1. CABINET (FRONT) ASSY, CABINET (REAR) ASSY



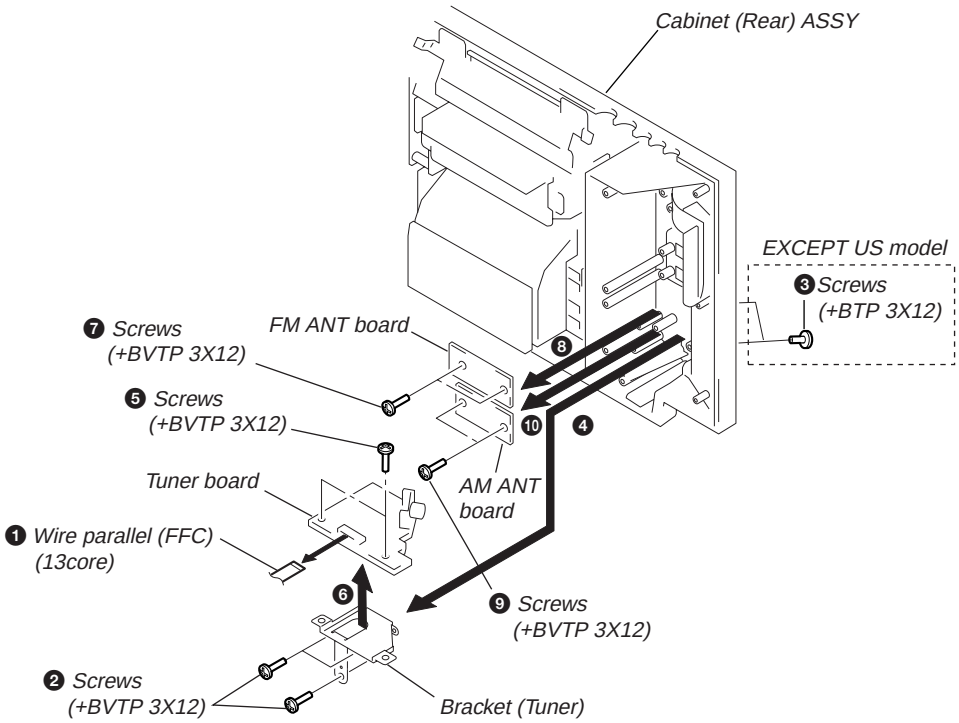
3-2. LEFT KEY BOARD, FRONT KEY BOARD, TOP KEY BOARD, RIGHT KEY BOARD, RELAY BOARD



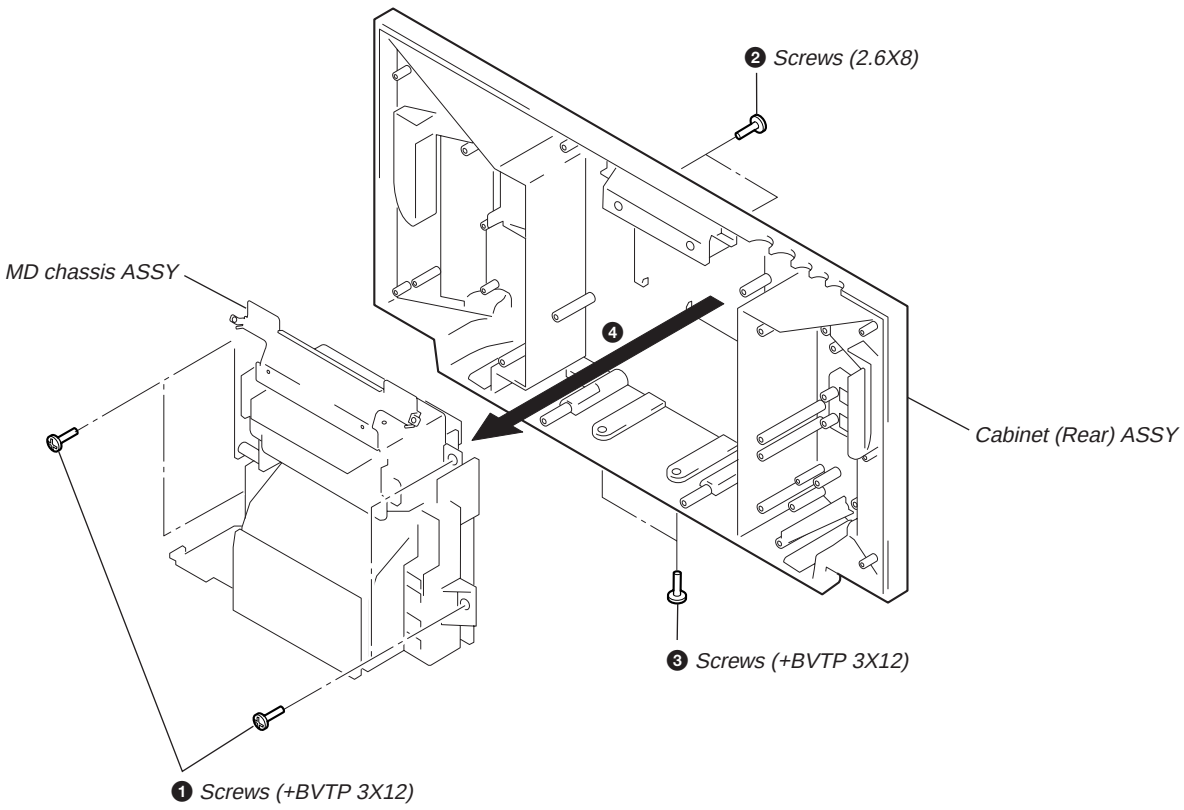
3-3. FL BOARD, TRANS BOARD



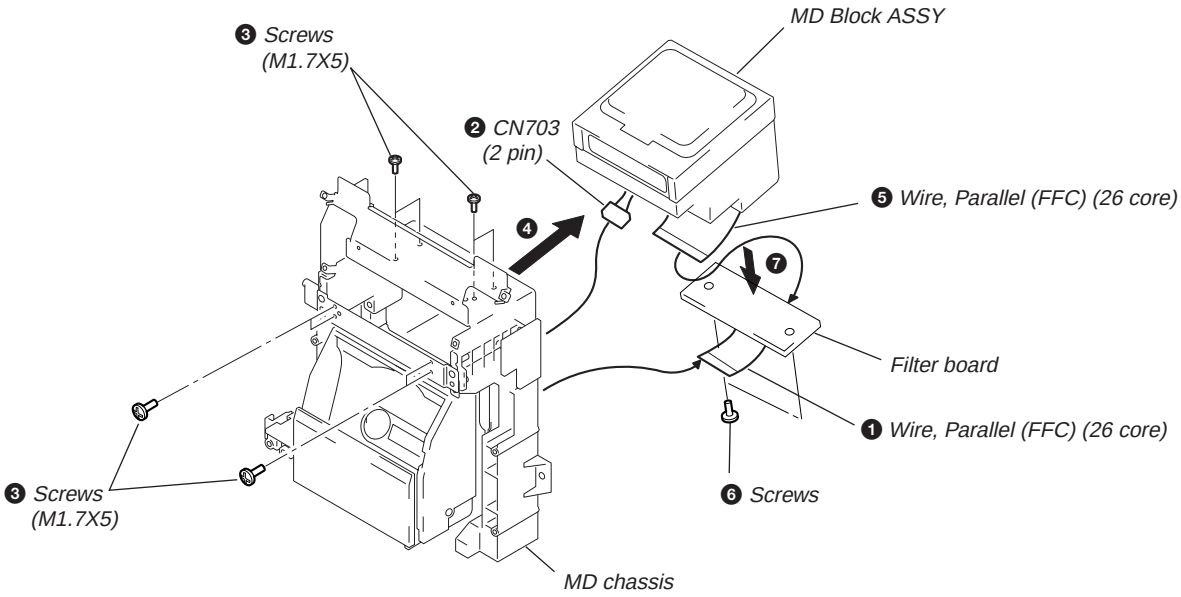
3-4. TUNER BOARD, FM ANT BOARD, AM ANT BOARD



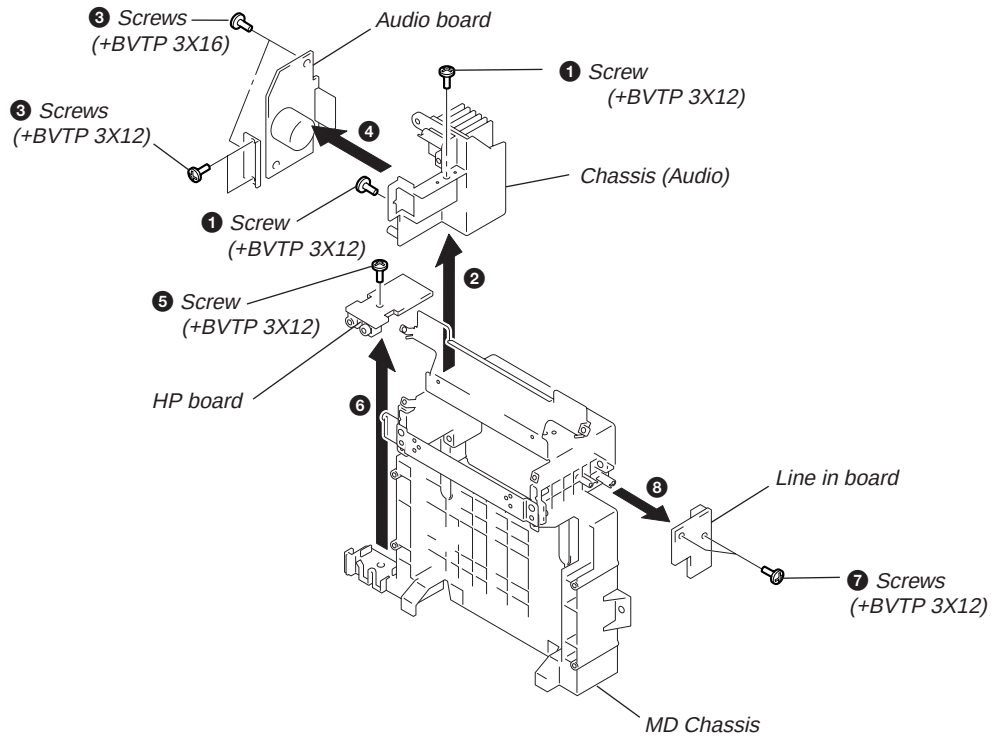
3-5. MD CHASSIS ASSY



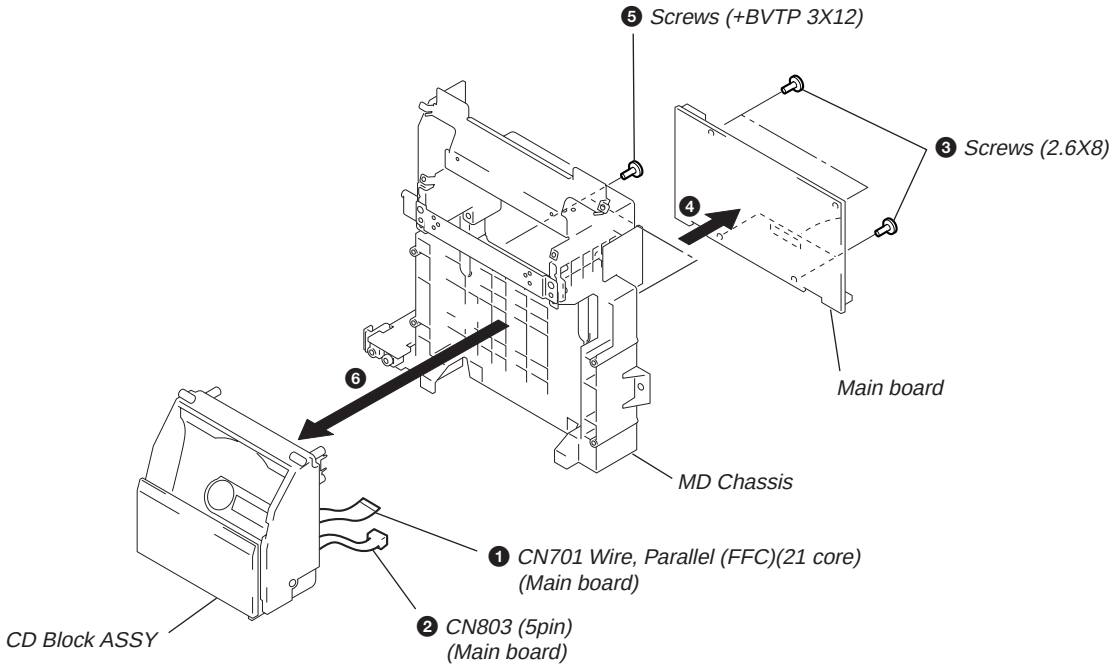
3-6. MD BLOCK ASSY, FILTER BOARD



3-7. AUDIO BOARD, HP BOARD, LINE IN BOARD

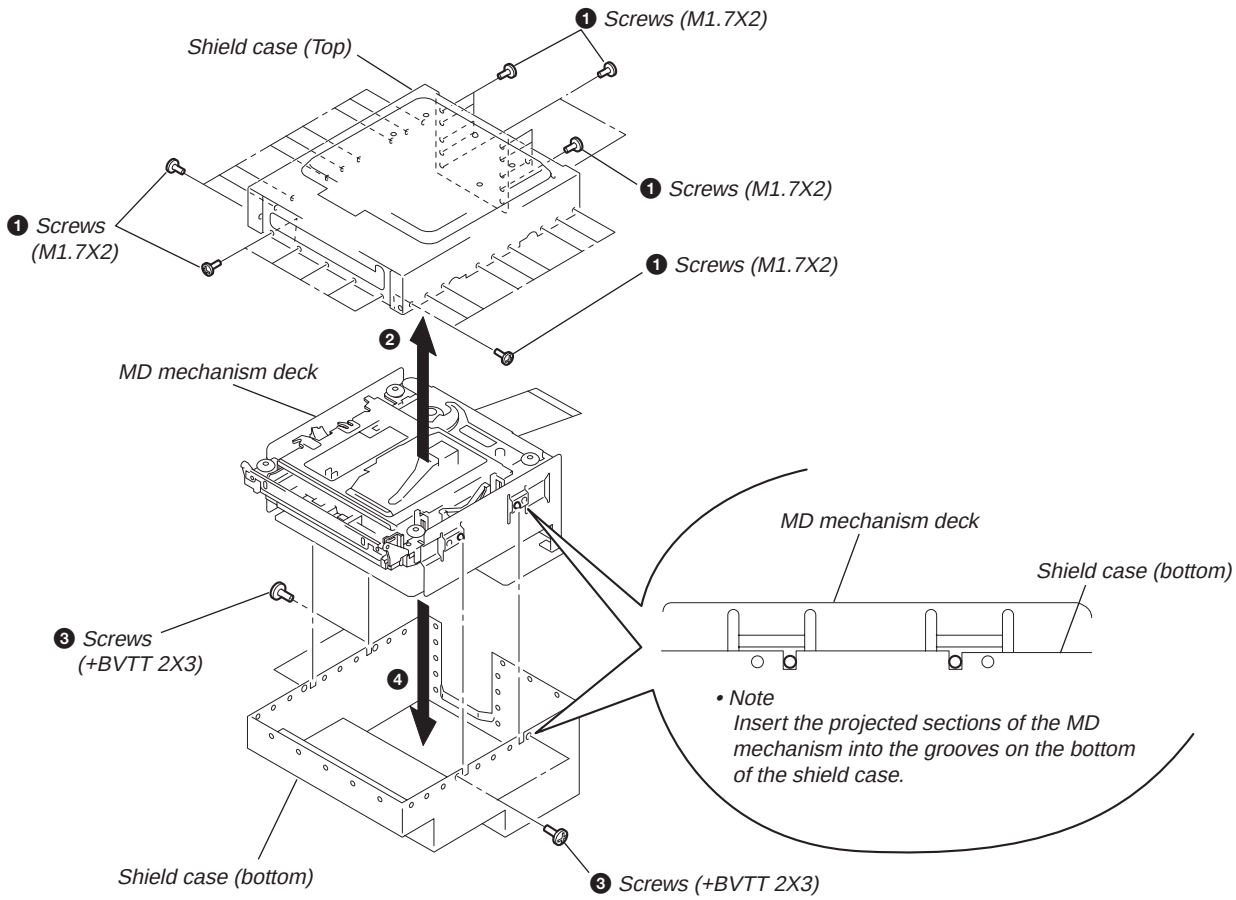


3-8. MAIN BOARD, CD BLOCK ASSY

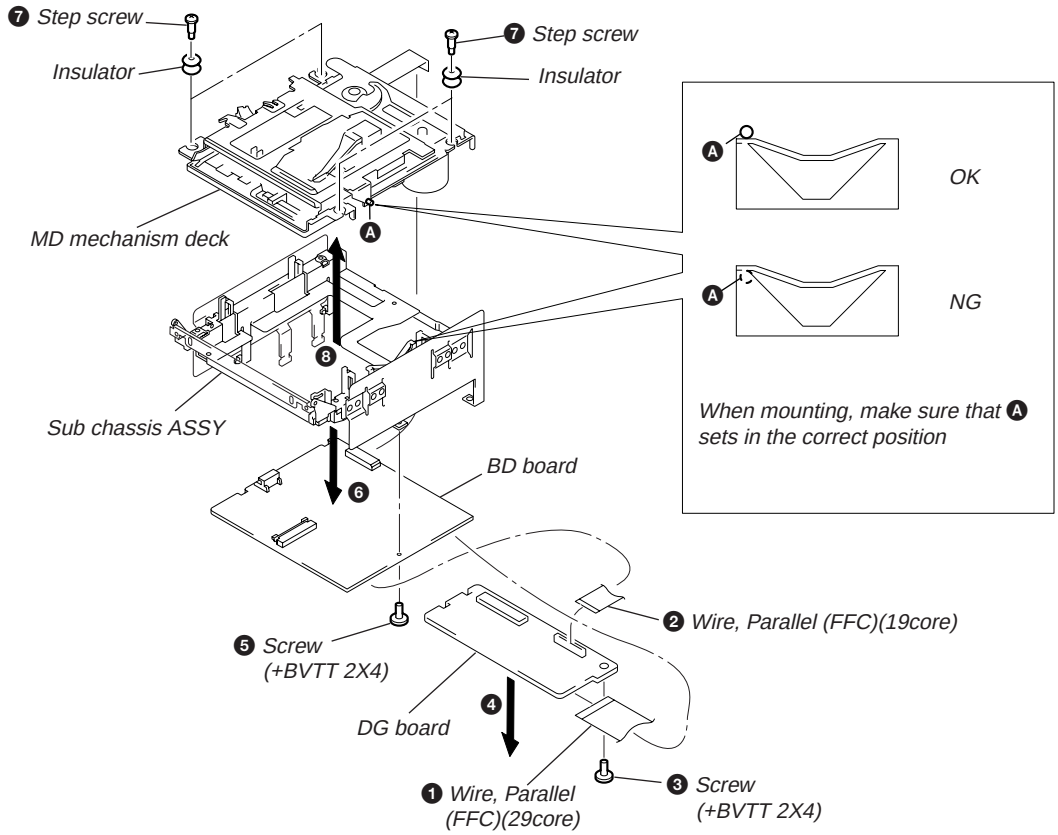


< MD BLOCK SECTION >

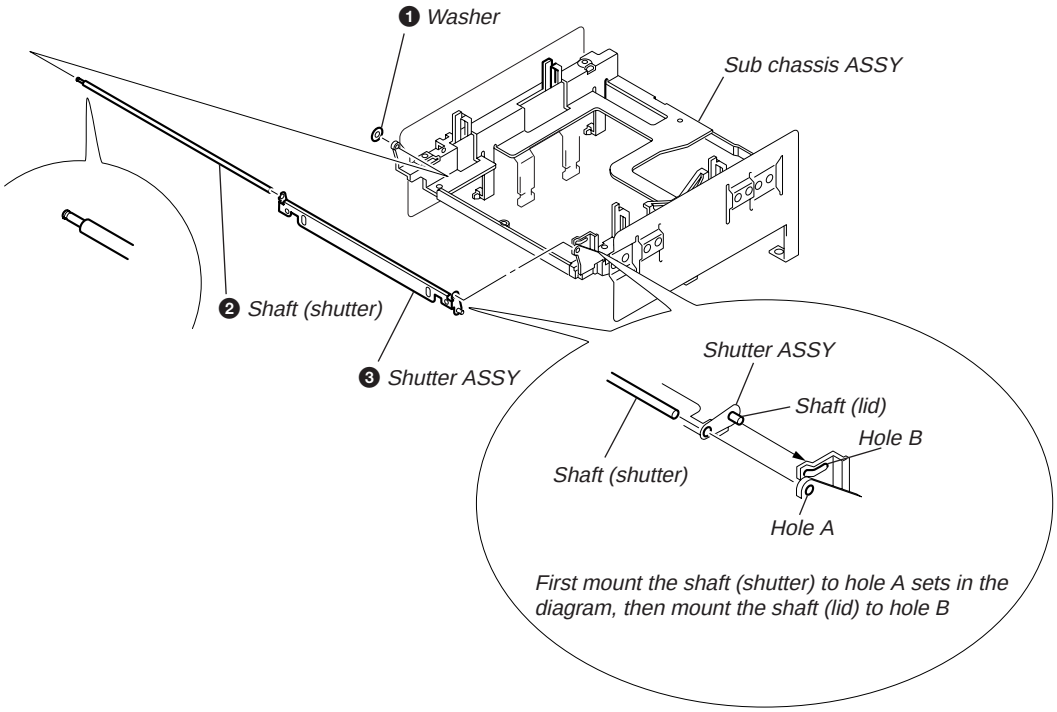
3-9 . SHIELD CASE (TOP), SHIELD CASE (BOTTOM)



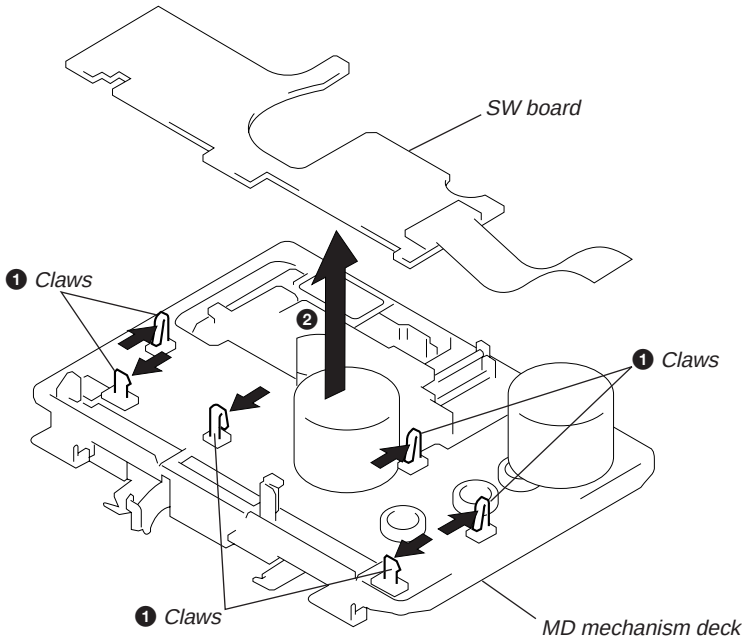
3-10 . DG BOARD, BD BOARD, MD MECHANISM DECK



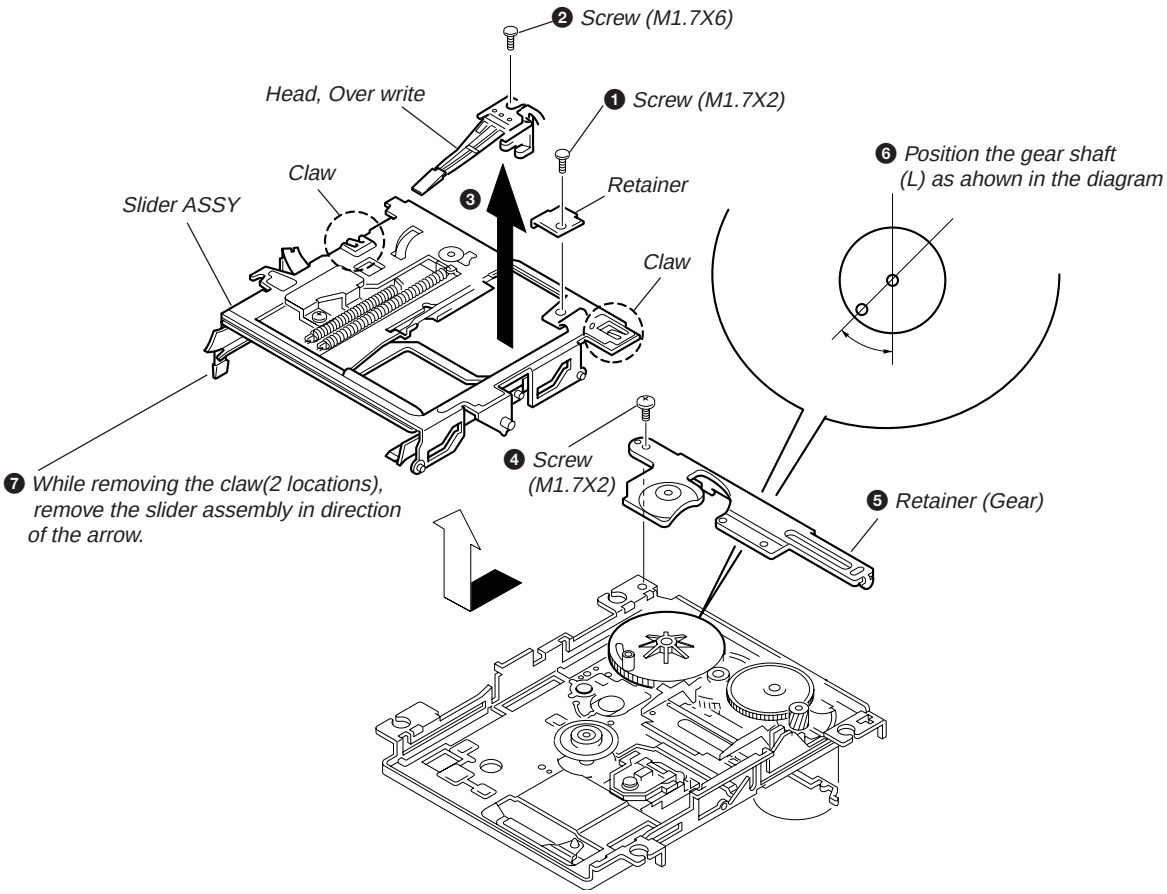
3-11 . SHUTTER ASSY


❶ Washer
Sub chassis ASSY
❷ Shaft (shutter)
❸ Shutter ASSY
Shutter ASSY
Shaft (lid)
Hole B
Shaft (shutter)
Hole A
First mount the shaft (shutter) to hole A sets in the diagram, then mount the shaft (lid) to hole B

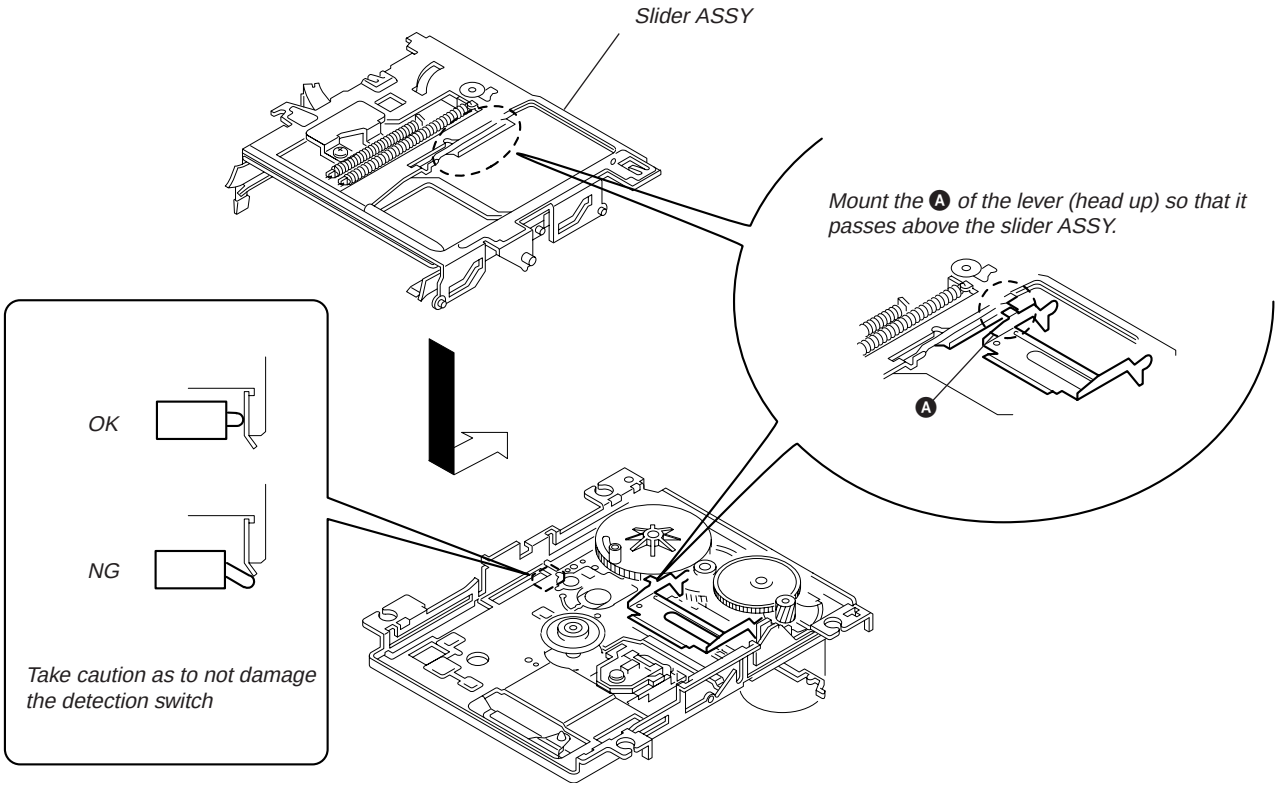
3-12 . SW BOARD



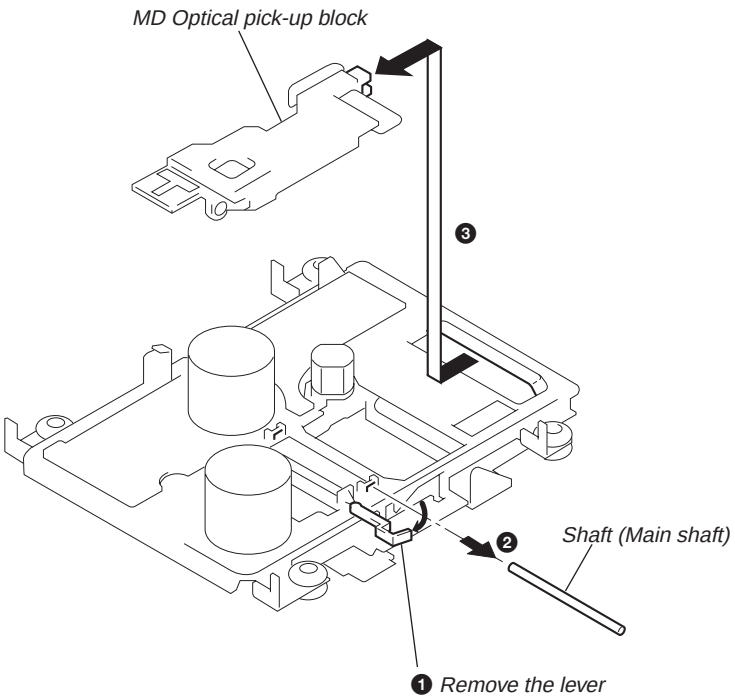
3-13. SLIDER ASSY, " HEAD, OVER WRITE "



● **CAUTION DURING SLIDER ASSY ASSEMBLY**

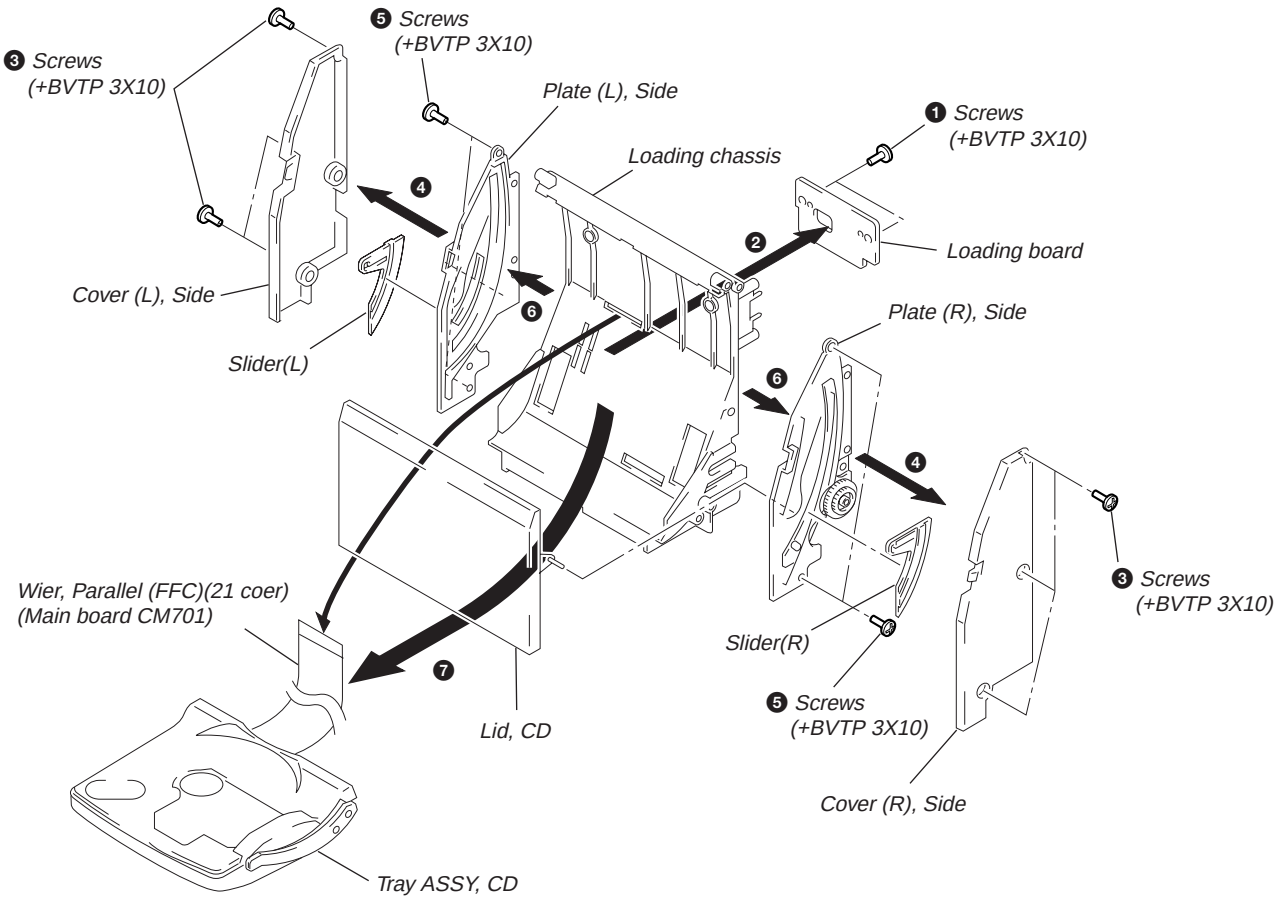

Slider ASSY
Mount the Ⓐ of the lever (head up) so that it passes above the slider ASSY.
Ⓐ
OK
NG
Take caution as to not damage the detection switch

3-14. MD OPTICAL PICK-UP BLOCK

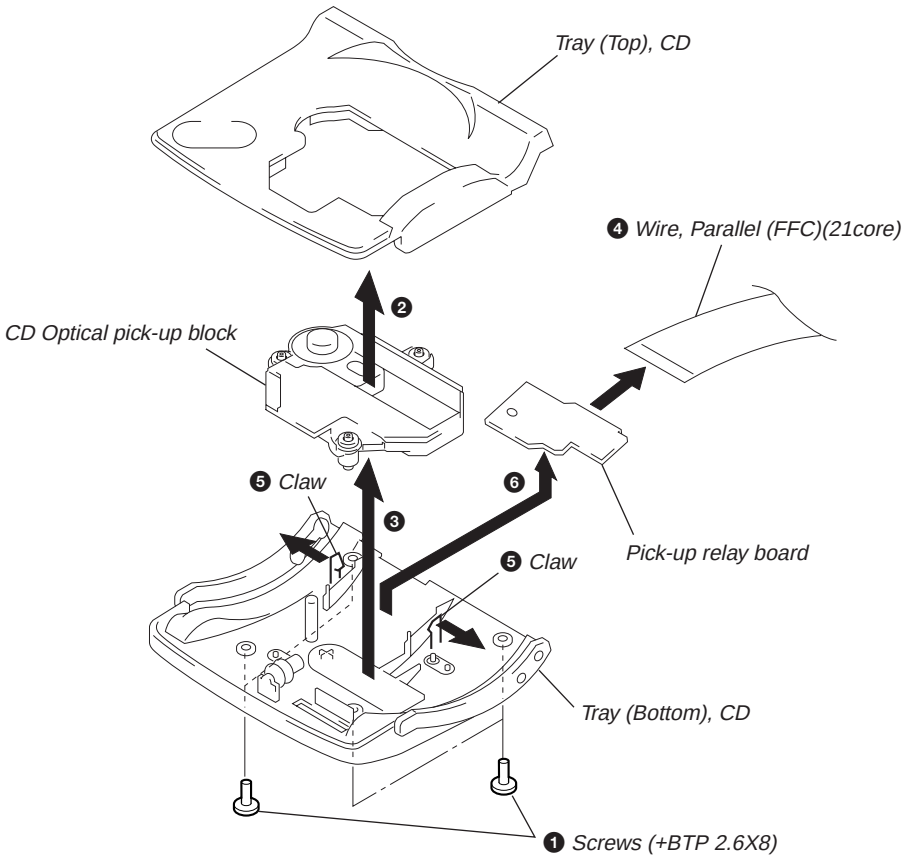


< CD BLOCK SECTION >

3-15. LOADING BOARD, "TRAY ASSY, CD"



3-16. CD OPTICAL PICK-UP BLOCK, PICK-UP RELAY BOARD



SECTION 4
TEST MODE

4-1. CAUTIONS WHEN USING THE TEST MODE

① Check to make sure the inserted disk is completed stopped before removing since loading related operations will operate regardless of the Test mode operation.
The rotation of the inserted disk will not stop even when pressing the MD EJECT button during continuous playback and continuous recording.
In this case, the disk will be ejected while still in motion.
Always press the CANCEL/NO button and check to see that the disk has stopped turning before pressing the MD EJECT button.

② In the Test mode, detection of the write-protect tab is executed. For this reason, pressing the REC button in modes where the recording laser is emitted (see 3-1-1) will delete the recorded contents regardless of the tab position. When using a disk in the Test mode which its contents must not be deleted, avoid entering the Continuous Recording mode and Transverse Adjustment mode.

4-1-1. Modes which the record laser is emitted and button operations

- Continuous Recording mode (CREC MODE)
- Traverse Adjustment mode (EFBAL ADJUST)
- Laser Power Adjustment mode (LDPWR ADJUST)
- Laser Power Check mode (LDPWR CHECK)
- Traverse (MO) check (EF MO CHECK)
- Traverse (MO) adjustment (EF MO ADJUST)
- When pressing the REC button

4-2. TEST MODE SETTINGS

MD Test mode :
Press and hold the EDIT button and BASS/TREBLE button, then press MD ▶II → MD ■ → MD ▶II → MD ■.

CD Test mode :
Press and hold the EDIT button and BASS/TREBLE button, then press CD ▶II → CD ■ → CD ▶II → CD ■.

Display Test mode :
Press and hold the EDIT button and BASS/TREBLE button, then press BAND → LINE → BAND → LINE (FUNCTION is LINE).

Note 1 : Each test mode can be entered regardless of whether the power is on or off. However, it is not possible to enter the test mode of the particular function being operated. For example, it its not possible to enter the CD Test mode when the CD is in function.

Note 2 : When entering the MD Test mode, EEPROM data for the radio broadcasting station names are automatically cleared. To exit the MD Test mode with sufficient memory, always use the RESET button. Moreover, never make radio presets once in the MD Test mode until the mode is exited.

4-3. RELEASING THE TEST MODE

Press the RESET button located on the rear.

4-4. BASIC OPERATIONS OF THE TEST MODE

All operations are made using the AMS dial, ENTER/YES button and CANCEL/NO button.
The functions of each button are as follows:

Function Name	Functions
AMS dial	Used to change parameters and modes
ENTER/YES button	Used to advance and confirm
CANCEL/NO button	Used to return and cancel

4-5. SELECTING THE TEST MODE

There are 9 types of test modes (see table below). Turning the AMS dial clockwise switches modes shown in the table in the order from top to bottom. Turning the AMS dial counterclockwise switches modes shown in the table in the reverse order.

Display	Description
TEMP ADJUST	Temperature compensation offset adjustment
LDPWR ADJUST	Laser power adjustment
LDPWR CHECK	Laser power check
EF BAL ADJUST	Traverse adjustment
FBIAS ADJUST	Focus bias adjustment
FBIAS CHECK	Focus bias check
CPLAY MODE	Continuous playback mode
CREC MODE	Continuous recording mode
EEP MODE	Non-volatile storage memory control

- For details on each adjustment mode, see respective items of SECTION 5. ADJUSTMENT
- If you have accidently entered another mode, press the CANCEL/No button to exit.
- The EEP MODE is not used during servicing. Thus, details on this mode are not given. If this mode is accidently entered, exit immediately by pressing the CANCEL/NO button as the unit may not operate correctly if the non-volatile storage memory being overwritten.

4-5-1. Operating in the Continuous Playback mode

1. Entering the Continuous Playback mode
   ① Insert a disk into the unit (either recordable or playback disk)
   ② Turn the AMS dial until “CPLAY MODE” is displayed.
   ③ Press the ENTER/YES button. The display will change to “CPLAY IN”.
   ④ When accessing is completed, the display will change to “C1= ⬚⬚⬚ AD = ⬚⬚ ”.
   Note : The numbers of “ ⬚ ” displayed indicate the error rate and “ADER”.

2. Changing the playback location
   ① Pressing the YES button during continuous playback will change the display in the following manner, enabling change in the playback location.
   “CPLAY MID” → “CPLAY OUT” → “CPLAY IN” → “CPLAY MID”
   ② When accessing is completed, the display will change to “C1= ⬚⬚⬚ AD = ⬚⬚ ”.
   Note : The numbers of “ ⬚ ” displayed indicate the error rate and “ADER”.

3. Exiting the Continuous Playback mode
   ① Press the CANCEL/NO button. The display will change to “CPLAY MODE”.
   ② To remove the disk, press the MD EJECT button.
   Note : The playback initiate addresses of IN, MID and OUT are indicated below. To display the playback position, press the DISPLAY button and “CPLAY(⬚⬚⬚)”.
   IN 40h cluster
   MID 300h cluster
   OUT 700h cluster

4-5-2. Operating in the Continuous Recording mode

1. Entering the Continuous Recording mode
   ① Insert a disk that may be recorded into the unit (see Note 3)
   ② Turn the AMS dial until "CREC MODE" is displayed.
   ③ Press the ENTER/YES button. The display will change to "CREC MID".
   ④ When accessing is completed, the display will change to "CREC ( )".

   Note : The numbers of " " displayed indicate the record position address.

2. Changing the recording location
   ① Pressing the YES button during continuous recording will change the display in the following manner, enabling change in the recording location. During location change, the REC indicator will be off.
   "CPLAY MID" → "CPLAY OUT" → "CPLAY IN"
   ② When accessing is completed, the display will change to "CREC ( )" and the REC indicator will light.

   Note : The numbers of " " displayed indicate the record position address.

3. Exiting the Continuous Recording mode
   ① Press the CANCEL/NO button. The display will change to "CREC MODE" and the REC indicator will turn off.
   ② To remove the disk, press the MD EJECT button.

   Note 1 : The record initiate addresses of IN, MID and OUT are indicated below.

IN	40h cluster
MID	300h cluster
OUT	700h cluster

   Note 2 : The CANCEL/NO button can be used at anytime to stop recording.
   Note 3 : Detection for the write-protect tab is not executed when in the test mode. Do not enter the Continuous Recording mode with a disk you do not wish to have deleted.
   Note 4 : Do not continuously record for more than 5 minutes.
   Note 5 : Make sure no vibration is applied to the unit during continuous recording.

4-5-3. Non-volatile storage memory mode (EEP mode)

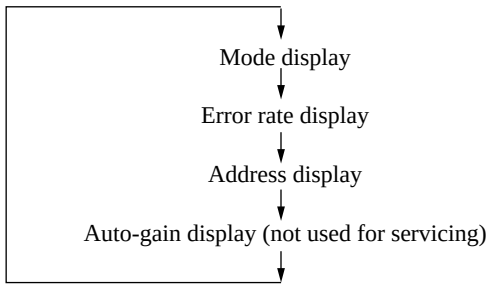
This is the mode to read and write the contents of the non-volatile storage memory.
This is mode is not used for servicing.
If you accidently enter this mode, exit immediately by pressing the CANCEL/NO button.

4-6. FUNCTIONS OF OTHER BUTTONS

Function Name	Main Description
EDIT + ►II	Continuous playback when pressed during disk is stopped. Tracking servo ON/OFF when pressed during continuous playback
EDIT + ■	Stopping of continuous recording/playback
►►	The thread moves outward while the button is pressed
◄◄	The thread moves inward while the button is pressed
EDIT + REC	Record ON/OFF during continuous playback
EDIT + DELETE	Switched between pit and groove every time the button is pressed
EDIT + SHUF/PGM	Spindle servo mode switch (CLV S ←→ CLV A)
DISPLAY	Display contents are switched every time the button is pressed
MD EJECT	Eject disk
RESET	Exit the test mode

4-7. TEST MODE DISPLAY

The display will switch in the following sequence every time the DISPLAY button is pressed.



1. Mode display
Displays such information as "TEMP ADJUST" and "CPLAY MODE".
2. Error rate display
The error rate is displayed using the following format.
C1=C1ER AD=ADER
3. Address display
The address is displayed using the following format (MO : recordable disk, CD : playback disk)
Note : "–" is displayed when servo is off.
4. Auto-gain display (not used for servicing)
The auto-gain is displayed using the following format.
AG = @@/##[&&]
@@ : focus servo gain coefficient
: tracking servo gain coefficient
&& : displays [OK], [NG] or [– –].
[– –] indicates that convergence is incomplete

Definitions of other displays

Display	Description	
	Indicator ON	Indicator OFF
◁	Continuous playback in operation (CLV : ON)	Disk stopped (CLV : OFF)
II	Tracking servo OFF	Tracking servo ON
REC	Recording mode ON	Recording mode OFF
AUTO	ABCD adjustment completed	
DIGITAL	Focus auto-gain OK	(Flashing) Focus OK Tracking auto-gain NG
TRACK	Pit	Groove
DISC	High reflection	Low reflection
DATE	CLV-S	CLV-A
◴	CLV LOCK	CLV UNLOCK

SECTION 5
ADJUSTMENTS

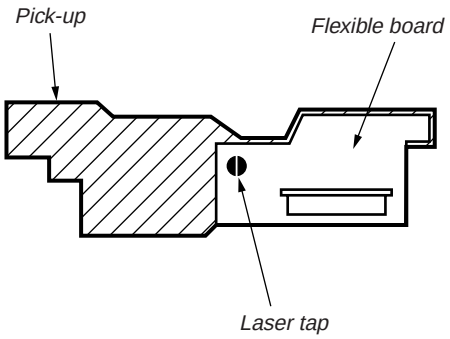
MD SECTION

5-1. CAUTION WHEN CHECKING LASER DIODE EMISSION

Never look from directly above when checking the laser diode emission during adjustment as failure to do so may result in loss of eyesight.

5-2. CAUTIONS WHEN HANDLING THE OPTICAL PICK-UP (KMS-260A)

The laser diode within the optical pick-up is extremely vulnerable to static electricity. When handling, bridge the laser tap of the flexible board on the optical pick-up with solder.
When removing the connector, first bridge the laser tap with solder. Furthermore, do not remove the soldered bridge before reconnecting. In addition, take sufficient measures when working to prevent electrostatic damage. Take caution when handling the flexible board since it is easily torn.



5-3. CAUTIONS DURING ADJUSTMENT

1) After replacing the following parts, make adjustments and checks for the table items where indicated with a O in the order given.

	Optical pickup	BD board		
		IC171	D101	IC101,IC121,IC192
1. Temperature compensation offset adjustment	X	O	O	O
2. Laser power adjustment	O	O	X	O
3. Traverse adjustment	O	O	X	O
4. Focus bias adjustment	O	O	X	O
5. Error rate adjustment	O	O	X	O

2) Perform adjustments in the test mode.
   Exit the test mode when completed with adjustment.
2) Perform adjustments in the order given.
3) Use the following jig and measuring equipment:
   - Check disk (MD) TDYS-I (Part no : 4-963-646-01)
   - Laser power meter LPM-8001 (Part no : J-2501-046-A)
   - Oscilloscope (perform measurement after calibrating the probe)
   - Digital voltmeter
   - Thermometer
   - BD board waveform checking jig (part no : J-2501-124-A)

5) When looking at multiple signals using oscilloscope, etc., make sure VC and GND are not connected within the oscilloscope. Failure to do so will short circuit VC and GND.
6) Using the special jig enables checking of the waveform without soldering (see page 4 of Service Notes).

5-4. CREATING A CONTINUOUS RECORDING DISK

- This disk is used during focus bias adjustment and error rate check. The procedure for creating a continuous recording disk is as follows.

1. Insert a disk (any commercially available blank disk).
2. Turn the AMS dial until “CREC MODE” is displayed.
3. Press the YES button to display “CREC MID”.
   “CREC(0300)” will be displayed for an instant and recording will begin.
4. Complete recording within 5 minutes.
5. Press the NO button to stop recording.
6. Press the MD EJECT button to remove the disk.

A continuously recorded disk can be created by following the procedure above for focus bias adjustment and error rate check.

Note: Take caution as to not apply vibration to the unit during continuous recording.

5-5. TEMPERATURE COMPENSATION OFFSET ADJUSTMENT

The temperature data at the time is saved in the non-volatile storage memory as the standard data of 25°C.

Notes:

1. Do not make this adjustment under normal conditions.
2. Perform this adjustment in an environment with ambient temperature between 22 to 28°C. Furthermore, make the adjustment immediately after turning on the power when the internal temperature and ambient temperature are between 22 to 28°C.
3. After D101 replacement, perform the adjustment after the part has ample time to adjust to the ambient temperature.

Procedure:

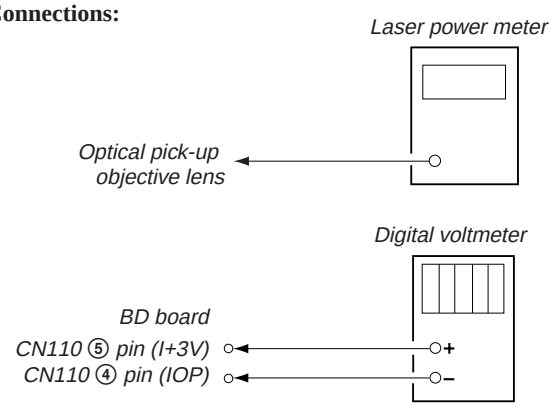
1. Turn the AMS dial until " TEMP ADJUST " is displayed.
2. Press the ENTER/YES button and select the TEMP ADJUST mode.
3. " TEMP= " and the current temperature data will be displayed.
4. To save the data: press the ENTER/YES button
   To not save the data: press the CANCEL/NO button
5. After pressing the ENTER/YES button, " TEMP= SAVE " will be displayed momentarily and the display will then return to " TEMP ADJUST ".
   The display will immediately return to " TEMP ADJUST " when pressing the CANCEL/NO button.

Specified values:

The value of TEMP= must be within the range of E0-EF, F0-FF, 00-0F, 10-1F or 20-2F.

5-6. LASER POWER ADJUSTMENT

Connections:



Procedure:

1. Insert the laser power meter into the disk loading port and set atop the objective lens of the optical pickup (if this cannot be done successfully, shift the optical pickup using the ◀◀ and ▶▶ buttons).
   Connect the digital voltmeter to the CN110 ⑤ pin (I+3V) and CN110 ④ pin (IOP).
2. Turn the AMS dial until " LDPWR ADJUST " is displayed. (Laser power: adjustment purposes)
3. Press the ENTER/YES button once to display " LD 0.9mW $ ".
4. Turn the AMS dial so that the laser power meter reading is between 0.86 – 0.92mW. After setting the range dial of the laser power meter to 10mW, press the ENTER/YES button to save the adjustment result to the non-volatile storage memory (at this time, " LD SAVE $ " will be displayed for an instant).
5. Next, " LD 7.0mW $ " will be displayed.
6. Turn the AMS dial so that the laser power meter reading is between 6.9 – 7.1mW, then press the ENTER/YES button to save the adjustment result (at this time, " LD SAVE $ " will be displayed for an instant).

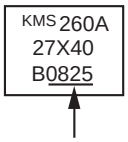
Note: Do not emit the 7.0mW emission more than 15 seconds continuously.

7. Next, turn the AMS dial until " LDPWR CHECK " is displayed.
8. Press the ENTER/YES button once to display " LD 0.9mW $ ".
   At this time, check to see that the laser power meter reading is between 0.85 – 0.91mW.
9. Next, press the ENTER/YES button once more to display " LD 7.0mW $ ".
   At this time check to see that the laser power meter and digital voltmeter reading comply with the specified values.

Specified values:

Laser power meter reading : 6.9–7.1mW
Digital voltmeter reading : ±10% the value on the label of the optical pickup.

(Optical pick-up label)

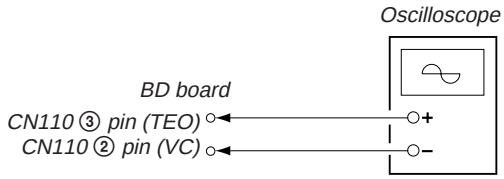


In this case, Iop = 82.5mA
Iop(mA) = digital voltmeter reading (mV)/1(Ω)

10. Press the CANCEL/NO button to display " LDPWR CHECK " and stop laser emission. (The CANCEL/NO button can be used at anytime to stop laser emission.

5-7. TRAVERSE ADJUSTMENT

Connection:

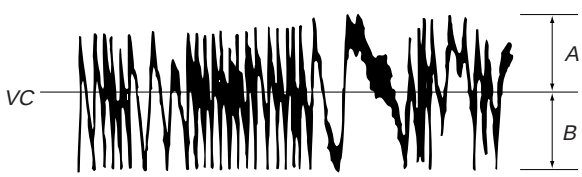


V: 0.5V/div H: 10ms/div
Input: DC mode

Procedure:

1. Connect the oscilloscope to the CN110 ③ pin (TEO) and CN110 ② pin (VC) of the BD board.
2. Insert a disk (any commercially available disk) that may be recorded on (see Note 1).
3. Press the ◀◀ or ▶▶ button to shift the optical pick-up to the outer edge of the pit.
4. Turn the AMS dial until " EFBAL ADJUST " is displayed.
5. Press the ENTER/YES button to display " EFB= MO-R ". (The unit will be in the condition of: laser power READ power, focus servo ON, tracking servo OFF and spindle (S) servo ON.)
6. Turn the AMS dial so that the waveform on the oscilloscope is that of the specified value (turning the AMS dial will change the numbers of " EFB= " as well as the waveform). During this adjustment, the waveform changes for approximately every 2%. Adjust the waveform closest to the specified value (read power traverse adjustment).

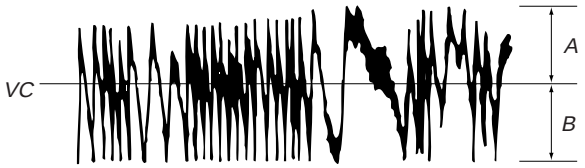
(Traverse waveform)



Specification: A=B

7. Press the ENTER/YES button to save the adjustment result to the non-volatile storage memory (at this time " EFB= □□ SAVE " will be displayed for an instant, then " EFB= □□ MO-W " will be displayed).
8. Turn the AMS dial so that the waveform on the oscilloscope is that of the specified value (turning the AMS dial will change the numbers of " EFB= □□ " as well as the waveform). During this adjustment, the waveform changes for approximately every 2%. Adjust the waveform closest to the specified value (write power traverse adjustment).

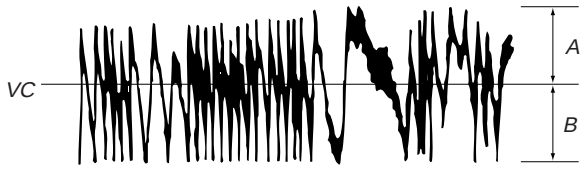
(Traverse waveform)



Specification: A=B

9. Press the ENTER/YES button to save the adjustment result to the non-volatile storage memory (at this time " EFB= □□ SAVE " will be displayed for an instant).
10 " EFB= □□ MO-P " will then be displayed and the servo will be activated after the optical pickup is automatically shifted to the inner edge of the pit.
11. At this time, turn the AMS dial so that the waveform on the oscilloscope is that of the specified value. During this adjustment, the waveform changes for approximately every 2%. Adjust the waveform closest to the specified value.
and the rotation of the disk will automatically stop.

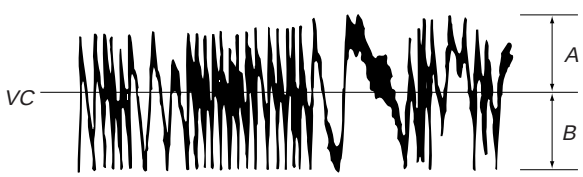
(Traverse waveform)



Specification: A=B

12. Press the ENTER/YES button to save the adjustment result to the non-volatile storage memory (at this time " EFB= □□ SAVE " will be displayed for an instant). "EFBAL CD" will then be displayed
13. Press the MD EJECT button to remove the disk.
14. Insert the check disk (MD) TDYS-1.
15. Press the ENTER/YES button to display " EFB= □□ CD ". The servo will automatically be activated.
16. Turn the AMS dial so that the waveform on the oscilloscope is that of the specified value. During this adjustment, the waveform changes for approximately every 2%. Adjust the waveform closest to the specified value.

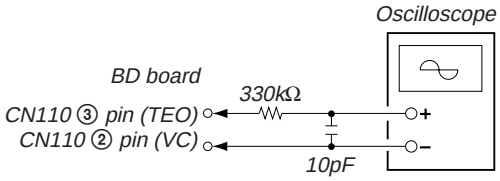
(Traverse waveform)



Specification: A=B

17. Press the ENTER/YES button to save the adjustment result to the non-volatile storage memory (at this time "EFB= □□ SAVE" will be displayed for an instant). "EFBAL ADJUST" will then be displayed.
18. Press the MD EJECT button to remove the check disk (MD) TDYS-1.

Note 1: When using a pre-recorded disk for adjustment, data will be deleted during MO write.
Note 2: If the traverse waveform is hard to see, reconnect the oscilloscope as shown below for easier view.

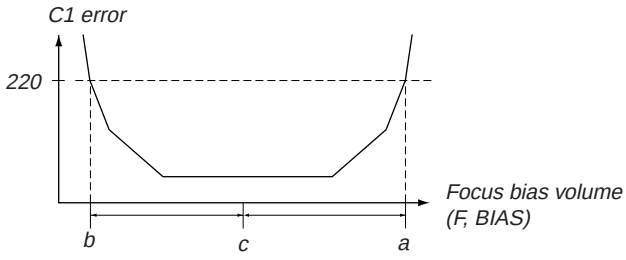


5-8. FOCUS BIAS ADJUSTMENT

Procedure:

1 Insert a continuously recorded disk (see 5-4. Creating a continuous recording disk).
2. Turn the AMS dial until "CPLAY MODE" is displayed.
3. Press the ENTER/YES button to display "CPLAY MID".
4. When "C1= □□□□ AD= □□ " is displayed, press the CANCEL/NO button.
5. Turn the AMS dial until "FBIAS ADJUST" is displayed.
6. Press the ENTER/YES button to display " □□□□ / □□ a= □□ ". The first 4 digits indicate the C1 error rate, the 2 digits following "/" indicate ADER and the 2 digits following "a=" indicate the focus bias volume.
7. Turn the AMS dial clockwise and search the focus bias volume closest to the C1 error rate of 220 (see Note 2).
8. Press the ENTER/YES button to display " □□□□ / □□ b= □□ ".
9. Turn the AMS dial counterclockwise and search the focus bias volume which is the C1 error rate of 220.
10. Press the ENTER/YES button to display " □□□□ / □□ c= □□ ".
11. Press the ENTER/YES button after making sure that the C1 error rate is below 50 and ADER is 00.
12. Press the ENTER/YES button if the value indicated in the " □□ -□□-□□ (□□)" display is more than 20.
Otherwise, press the CANCEL/NO button and repeat procedure from step 2.
13.Press the MD EJECT button to remove the continuously recorded disk.

Note 1: The relationship of the C1 error and focus bias volume is shown in the diagram below. Find points a and b shown in the diagram by following the procedure above. The met focal point C is found by automatic calculation.
Note 2: The C1 error rate fluctuates. Thus, make the adjustment using the average value.



5-9. ERROR RATE CHECK

5-9-1. CD error rate check

Procedure:

1. Insert the check disk (MD) TDYS-1
2. Turn the AMS dial until " CPLAY MODE " is displayed.
3. Press the ENTER/YES button to display " CPLAY MID ".
4. The display will change to " C1= □□□□ AD= □□ ".
5. Check to see that the C1 error rate is less than 20.
6. Press the CANCEL/NO button to stop playback, then press the MD EJECT button to remove the check disk (MD).

5-9-2. MO error rate check

Procedure:

1. Insert a continuously recorded disk (see 5-4. Creating a continuous recording disk).
2. Turn the AMS dial until " CPLAY MODE " is displayed.
3. Press the ENTER/YES button to display " CPLAY MID ".
4. The display will change to " C1= □□□□ AD= □□ ".
5. Check to see that the C1 error rate is less than 50 and ADER is constantly not above 00.
6. Press the CANCEL/NO button to stop playback, then press the button to remove the continuously recorded disk.

5-10. FOCUS BIAS CHECK

The focus tolerance volume is checked by changing the focus bias volume.

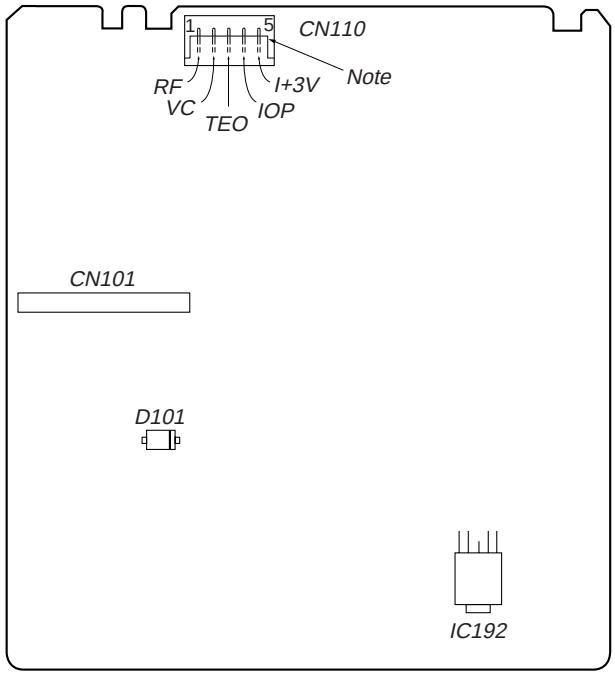
Procedure:

1. Insert a continuously recorded disk (see 5-4. Creating a continuous recording disk).
2. Turn the AMS dial until "CPLAY MODE" is displayed.
3. Press the ENTER/YES button to display "CPLAY MID".
4. When "C1= □□□□ AD= □□ " is displayed, press the CANCEL/NO button.
5. Turn the AMS dial until "FBIAS CHECK" is displayed.
6. Press the ENTER/YES button to display " □□□□ / □□ c= □□ ".
   The first 4 digits indicate the C1 error, the 2 digits following " / " indicate ADER and the 2 digits following "c=" indicate the focus bias volume.
   At this time, check to see that the C1 error is less than 50 and ADER is 00.
7. Press the ENTER/YES button to change the display to " □□□□ / □□ b= □□ "
   At this time check to see that the C1 error is not less than 220 and ADER is constantly not above 00.
8. Press the ENTER/YES button to change the display to " □□□□ / □□ a= □□ "
   At this time check to see that the C1 error is not less than 220 and ADER is constantly not above 00.
9. Press the CANCEL/NO button, then press the MD EJECT button to remove the continuously recorded disk.

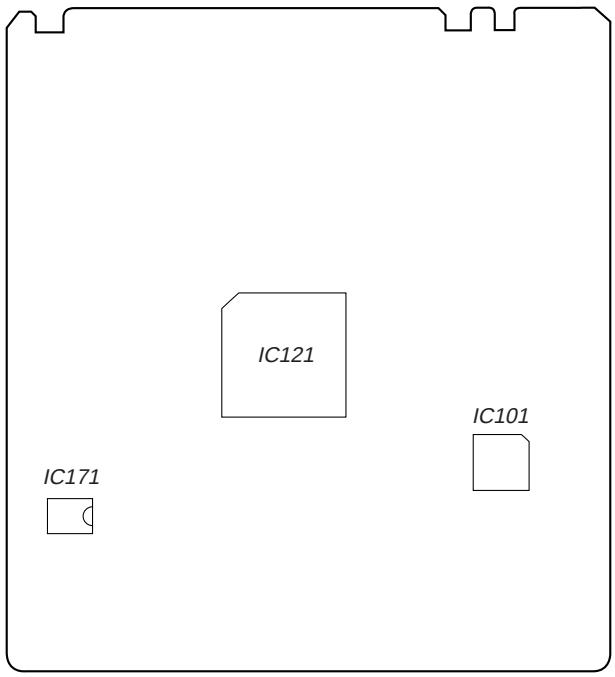
Note 1: If the C1 error or ADER is more than 00 for only one of points a (8. above) and b (7. above), there is the possibility of a gap in the focus bias adjustment. In such case, repeat adjustment.

5-11. ADJUSTMENT AND CONNECTION LOCATIONS

[BD BOARD] (Side A)



[BD BOARD] (Side B)



Note: The jig is highly convenient when checking the waveform (see page 4 of Service Notes)

CD SECTION

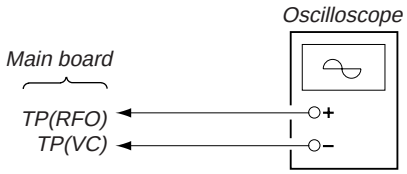
1. Enter the CD Test mode
   (see page 30)

MD	EF	TG	FB
88	07	00	3A0

The above is the default display.
Pressing the ►II key will rotate the CD and pressing the ►II once more will output sounds.
Pressing the ►II key will execute automatic adjustment and values will change; however, this value is quite normal.

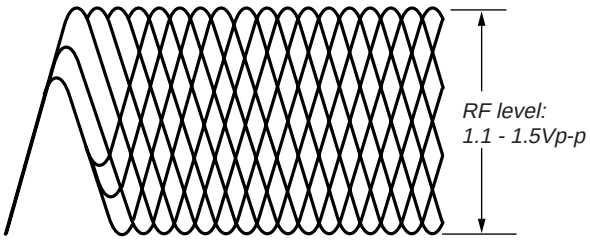
2. RF LEVEL and jitter check
   Test mode PLAY status

Connection Point:



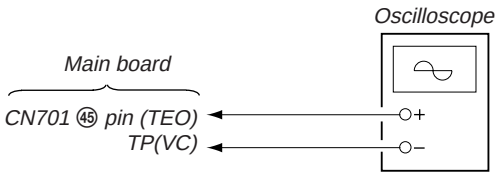
Check to see that the jitter is less than 9.0 nsec.
and RF level is between 1.1 – 1.5Vp-p.

VOLT/DIV : 200mV (using 10:1 probe)
TIME/DIV : 500ns



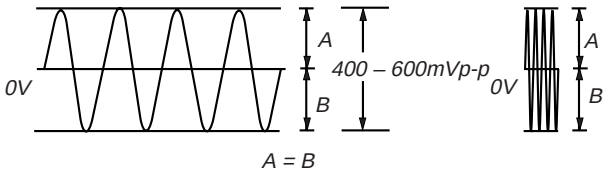
3. Traverse signal check

Connection Point:



Press the FF or FR from 2.
Check to see that the traverse signal level is between 400 600mVp-p.

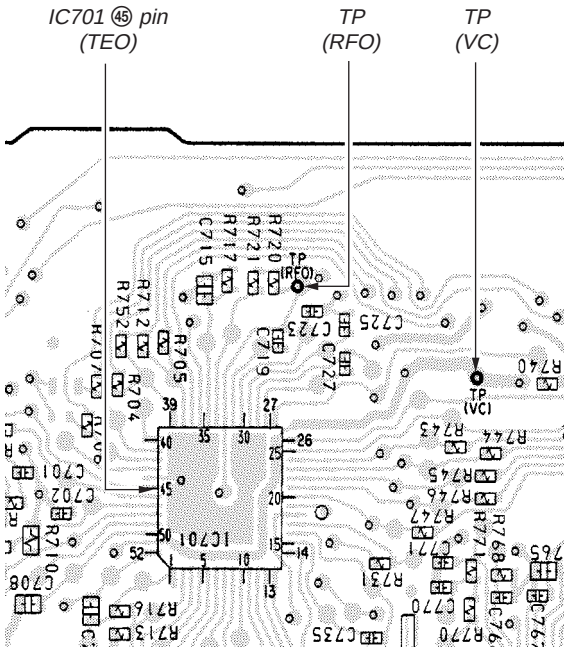
Note:
Extend the sweep time for easier view.



4. After completed with adjustment, press the RESET button to release the test mode.

Adjustment Location :

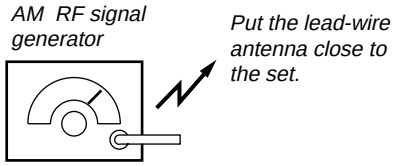
[MAIN BOARD] (SIDE A)



TUNER SECTION

AM Section

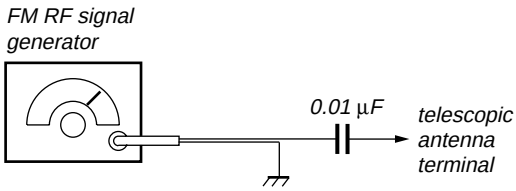
Function switch :
AM : US Model
MW (LW) : EXCEPT US Model
Volume : MIN



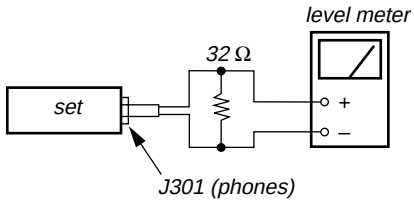
30% amplitude modulation by 400Hz signal.
Output level : as low as possible

FM Section

Function switch : FM
Volume : MIN



22.5kHz frequency deviation by 400Hz signal.
Output level : as low as possible



Connect and Adjustment Location : Tuner board (See page 38)

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

< > : EXCEPT US model

AM <MW/LW> IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
CFT1	450kHz

AM <MW> FREQUENCY COVERAGE ADJUSTMENT		
Adjust part	Frequency display	reading on digital voltmeter.
L2 < L4 >	530kHz < 531kHz >	0.9 – 1.1V < 0.8 – 1.0V >
Confirmation < CT2 >	1.710kHz < 1.611kHz >	5.2 – 5.6V < 5.2 – 5.6V >

AM <MW> TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
CT1 < CT3 >	620kHz < 621kHz >
L1 < L3 >	1.400kHz < 1.404kHz >

EXCEPT US model

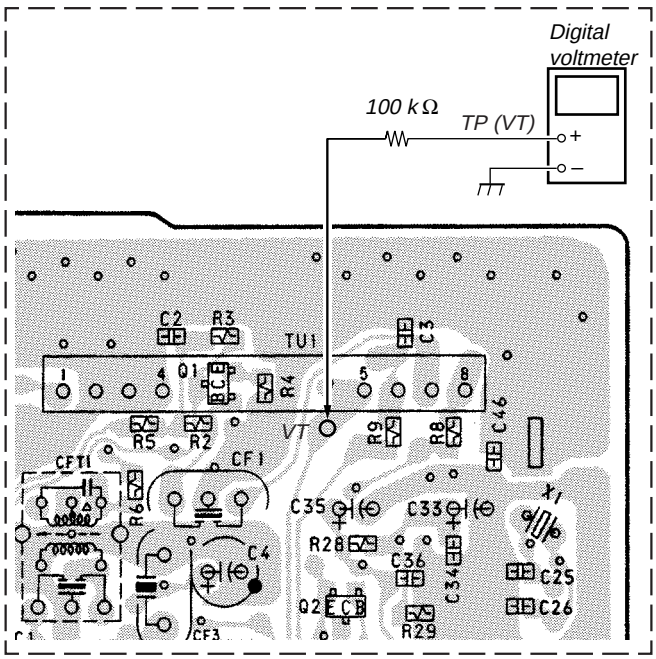
FM IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L10	10.7MHz

LW FREQUENCY COVERAGE ADJUSTMENT		
Adjust part	Frequency display	reading on digital voltmeter
Confirmation	153kHz	0.6 – 0.8V
CT4	297kHz	5.1 – 5.5V

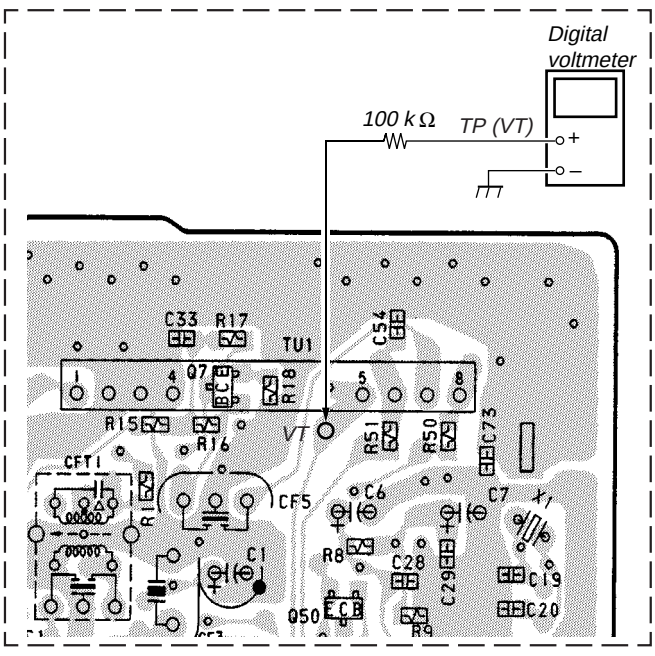
LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L5	162kHz
CT5	261kHz

[TUNER BOARD] (SIDE B)

US Model



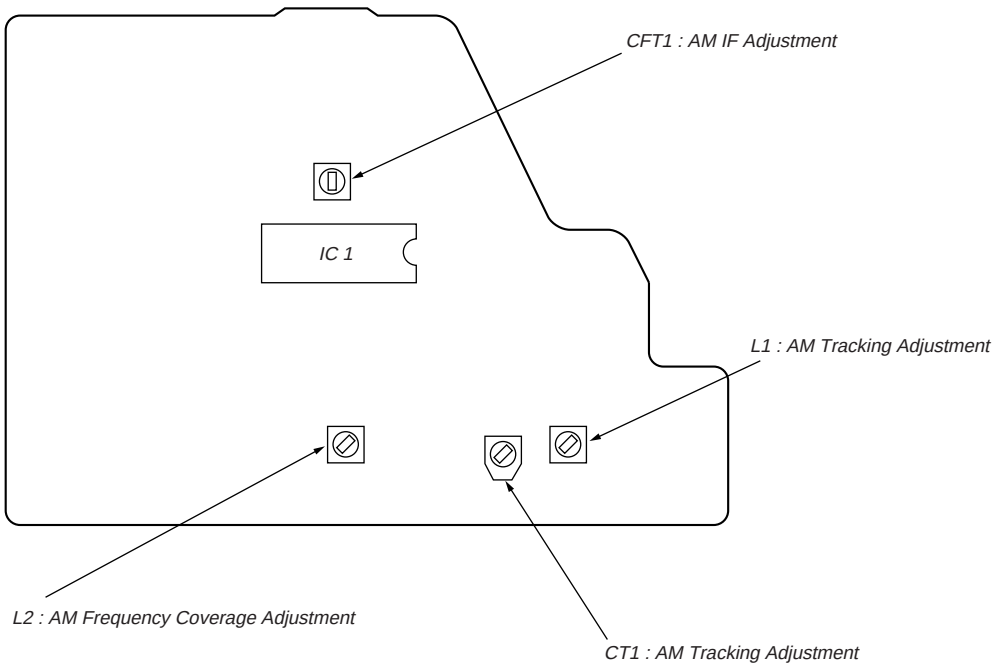
EXCEPT US Model



Adjustment Location :

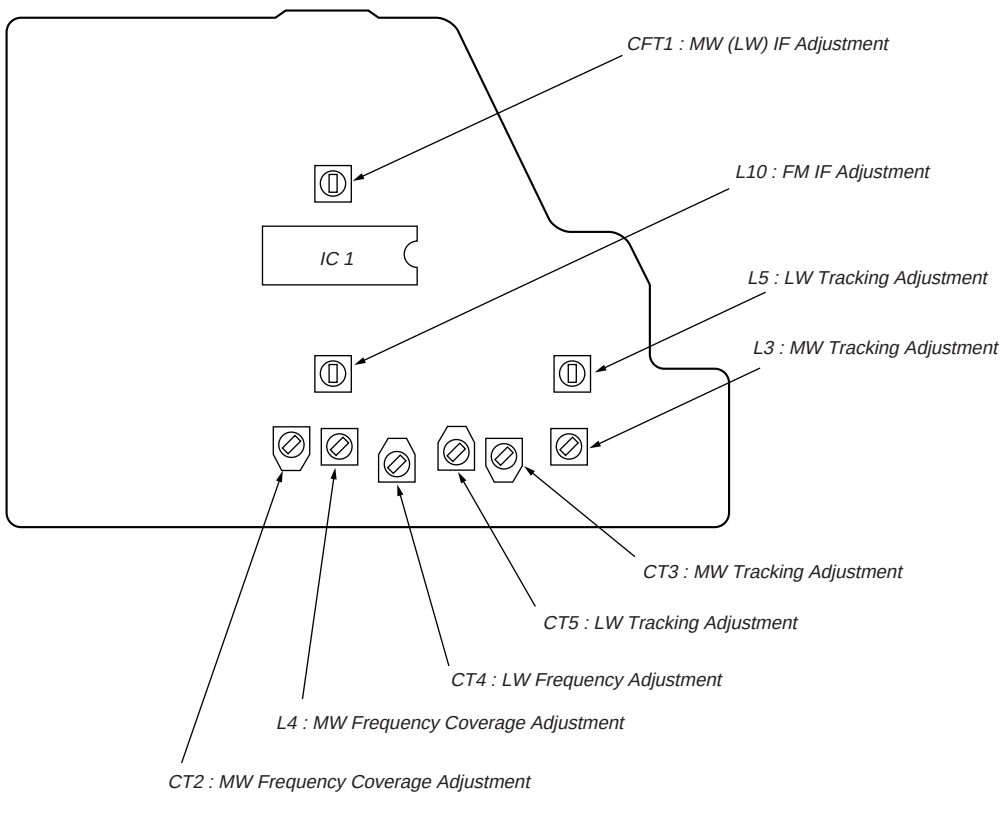
US Model

[TUNER BOARD] (Side A)



EXCEPT US Model

[TUNER BOARD] (Side A)


CFT1 : MW (LW) IF Adjustment
L10 : FM IF Adjustment
IC 1
L5 : LW Tracking Adjustment
L3 : MW Tracking Adjustment
CT3 : MW Tracking Adjustment
CT5 : LW Tracking Adjustment
CT4 : LW Frequency Adjustment
L4 : MW Frequency Coverage Adjustment
CT2 : MW Frequency Coverage Adjustment

SECTION 6
DIAGRAMS

6-1. EXPLANATION OF IC TERMINALS

BD BOARD IC101 MD SECTION RF AMPLIFIER (CXA2523R)

Pin No.	Pin name	I/O	Description
1	I	I	Input of RF signal l converted from I to V
2	J	I	Input of RF signal J converted from I to V.
3	VC	O	Midpoint voltage (+1.5V) generation output.
4 - 9	A–F	I	Signal inputs from optical pickup detector.
10	PD	I	Light volume monitor input.
11	APC	O	Laser APC output.
12	APCREF	I	Reference voltage input for laser power setting.
13	GND	–	Ground.
14	TEMPI	I	Temperature sensor connection terminal.
15	TEMPR	O	Reference voltage output for temperature sensor.
16	SWDT	I	Serial data input from CXD2652AR.
17	SCLK	I	Serial clock input from CXD2652AR.
18	XLAT	I	Latch signal input from CXD2652AR. “L”: Latch
19	XSTBY	I	Standby signal input. “L”: Standby
20	FOCNT	I	Center frequency control voltage input of internal circuits BFF22, BPF3T and EQ from CXD2652AR.
21	VREF	O	Reference voltage output (not used).
22	EQADJ	I/O	Pin for center frequency setting of internal circuit EQ.
23	3TADJ	I/O	Pin for center frequency setting of internal circuit BPF3T.
24	VCC	–	Power supply (+3V).
25	WBLADJ	I/O	Pin for center frequency setting of internal circuit BPF22.
26	TE	O	Tracking error signal output to CXD2652AR.
27	CSLED	–	External condenser connector pin for thread error signal LPF.
28	SE	O	Thread error signal output to CXD2652AR.
29	ADFM	O	ADIP FM signal output.
30	ADIN	I	ADIP signal comparator input ADFM connection by coupling with AC.
31	ADAGC	–	External condenser connector pin for AGC of ADIP.
32	ADFG	O	ADIP duplex signal output to CXD2652AR.
33	AUX	O	I3 signal/temperature signal output (switched by serial command) to CXD2652AR.
34	FE	O	Focus error signal output to CXD2652AR.
35	ABCD	O	Light volume signal output to CXD2652AR.
36	BOTM	O	RF/ABCD bottom hold signal output to CXD2652AR.
37	PEAK	O	RF/ABCD peak hold signal output to CXD2652AR.
38	RF	O	RF equalizer output to CXD2652AR.
39	RFAGC	–	RF AGC circuit external condenser connector pin.
40	AGCI	I	Input RF amplifier output is input to RF AGC circuit by coupling with AC.
41	COMPO	O	User comparator output (not used).
42	COMPP	I	User comparator input (Fixed at “L”).
43	ADDC	I/O	Low-pass cutoff external capacitor terminal of ADIP amplifier.
44	OPO	O	User op amplifier output (not used).
45	OPN	I	User op amplefier inverted input (Fixed at “L”).
46	RFO	O	RF amplifier output.
47	MORFI	I	Group RF signal input by coupling with AC.
48	MORFO	O	Group RF signal output.

APC : Auto Power Control
AGC : Auto Gain Control

• BD BOARD IC121 digital signal processor, digital servo signal processor, EFM/ACIRC encoder/decoder, shock-proof memory controller, ATRAC encoder/decoder, 2Mbit DRAM (CXD2652AR)

Pin No.	Pin name	I/O	Description
1	MNT0(FOK)	O	FOK signal output to system control. H is outputted when in focus.
2	MNT1(SHCK)	O	Track-jump detection signal output to system control.
3	MNT2(XBUSY)	O	Monitor 2 output to system control.
4	MNT3(SLOC)	O	Monitor 3 output to system control.
5	SWDT	I	Write-data signal input from system control.
6	SCLK	I(S)	Serial clock signal input from system control.
7	XLAT	I(S)	Serial latch signal input from system control.
8	SRDT	O(3)	Read-data signal output to system control .
9	SENS	O(3)	Internal status (SENSE) output to system control.
10	XRST	I(S)	Reset signal input from system control. "L": Reset
11	SQSY	O	Subcode Q-SYNC (SCOR) output to system control. Majority of those which output "L" every 13.3 seconds output "H".
12	DQSY	O	Subcode of digital-in U-bit CD format to system control. Majority of those which outputs "L" every 13.3 seconds during output of Q-SYNG (SCOR) outputs "H".
13	RECP	I	Laser power switch input from system control "H": Record, "L": Playback.
14	XINT	O	Interrupt status output to system control.
15	TX	I	Record data output authorization input from system control.
16	OSCI	I	System clock input (512Fs = 22.5792MHz).
17	OSCO	O	System clock output (512FS = 22.5792MHz).
18	XTSL	I	Pin for system clock frequency setting . "L": 45.1584MHz "H": 22.5792MHz (Fixed at "H").
19	TEST G	–	Test terminal.
20	DVSS	–	Ground (digital system).
21	DIN	I	Digital audio input (for optical input).
22	DOUT	O	Digital audio output (for optical output).
23	ADDT	I	Data input from A/D converter.
24	DADT	O	Data output to D/A converter.
25	LRCK	O	LR clock output (44.1kHz) for A/D and D/A converters.
26	XBCK	O	Bit clock output (2.8224MHz) for A/D and D/A converters.
27	FS256	O	11.2896MHz clock output (unused).
28	DVDD	–	Power supply for digital (+3V).
29–32	A03–A00	O	DRAM address outputs.
33	A10	O	
34–38	A04–A08	O	
39	A11	O	
40	DVSS	–	Ground for digital.
41	XOE	O	DRAM output-enable output.
42	XCAS	O	DRAM CAS signal output.
43	A09	O	DRAM address output.
44	XRAS	O	DRAM RAS signal output.
45	XWE	O	DRAM write-enable signal output.
46	D1	I/O	DRAM data I/O.
47	D0	I/O	
48, 49	D2,D3	I/O	
50	MVCI	I(S)	Clock input from external VCO (Fixed at "L").

* In the I/O column, I(S) is Schmitt input, I(A) is analog input, O(3) is state output and O(A) is analog output.

Pin No.	Pin name	I/O	Description
51	ASYO	O	Playback EFM duplex signal output.
52	ASYI	I(A)	Playback EFM comparator slice level input.
53	AVDD	–	Power supply for analog (+3V).
54	BIAS	I(A)	Playback EFM comparator bias current input.
55	RFI	I(A)	Playback EFM RF signal input.
56	AVSS	–	Ground for analog.
57	PDO	O(3)	Phase comparison output for clock playback analog PLL of playback EFM (not used).
58	PCO	O(3)	Phase comparison output for record/playback EFM system master PLL.
59	FILI	I(A)	Filter input for record/playback EFM system master PLL.
60	FILO	O(A)	Filter output for record/playback EFM system master PLL.
61	CLTV	I(A)	Internal VCO control voltage input for record/playback EFM system master PLL15.
62	PEAK	I(A)	Light volume signal peak hold input from CXA2523AR.
63	BOTM	I(A)	Light volume signal bottom hold input from CXA2523AR.
64	ABCD	I(A)	Light volume signal input from CXA2523AR.
65	FE	I(A)	Focus error signal input from CXA2523AR.
66	AUX1	I(A)	Auxiliary A/D input.
67	VC	I(A)	Midpoint voltage (+1.5V) input from CXA2523AR.
68	ADIO	O(A)	A/D converter input signal monitor output (not used).
69	AVDD	–	Power supply for analog (+3V).
70	ADRT	I(A)	A/D converter operating range upper limit voltage input (Fixed at “H”) .
71	ADRB	I(A)	A/D converter operating range lower limit voltage input (Fixed at “L”).
72	AVSS	–	Ground for analog.
73	SE	I(A)	Thread error signal input from CXA2523AR.
74	TE	I(A)	Tracking error signal input from CXA2523AR.
75	AUX2	I(A)	Auxiliary A/D input (Fixed at “L”).
76	DCHG	I(A)	Connected to +3V power supply.
77	APC	I(A)	Laser digital APC error signal input (Fixed at “L”).
78	ADFG	I(S)	ADIP duplex FM signal input (22.05±1kHz) from CXA2523AR.
79	F0CNT	O	Filter f0 control output from CXA2523AR.
80	XLRF	O	Control latch output from CXA2523AR.
81	CKRF	O	Control clock output from CXA2523AR.
82	DTRF	O	Control data output from CXA2523AR.
83	APCREF	O	Laser APC reference PWM output.
84	LDDR	O	Laser digital APC PWM output (not used).
85	TRDR	O	Tracking servo drive PWM output (-).
86	TFDR	O	Tracking servo drive PWM output (+).
87	DVDD	–	Power supply for digital (+3V).
88	FFDR	O	Focus servo drive PWM output (+).
89	FRDR	O	Focus servo drive PWM output (-).
90	FS4	O	176.4kHz clock signal output (X’tal) (not used).
91	SRDR	O	Thread servo drive PWM output (-).
92	SFDR	O	Thread servo drive PWM output (+).
93	SPRD	O	Spindle servo drive PWM output (-).
94	SPFD	O	Spindle servo drive PWM output (+).
95	FGIN	I(S)	Spindle CAV servo FG input.
96–98	TEST1–TEST3	I	Test input pins (Fixed at “L”).
99	DVSS	–	Ground for digital.
100	EFMO	O	EFM output during recording.

EFM : Eight to Fourteen Modulation
PLL : Phase Locked Loop
VCO : Voltage Controlled Oscillator

DG BOARD (2/2) IC502 SYSYTEM CONTROL (RU8X12MF-0021)

Pin No.	Pin name	I/O	Description
1	DAOUT0	–	not used (OPEN).
2	DAOUOT1	–	not used (OPEN).
3	KEY0	–	Reserved (“H” level).
4	KEY1	–	Reserved (“H” level).
5	KEY2	–	Reserved (“H” level).
6	CHACK IN	I	Detection input from chucking-in switch (S685).
7	PACK IN	I	Detection input from back-in switch (not used).
8	PACK OUT	I	Detection input from back-out switch (S686).
9		–	not used (ground connection).
10		–	not used (ground connection).
11	AVSS	–	ground for analog.
12	X INT	I	Interrupt status input from digital signal processor IC (IC121).
13	PDOWN	I	Power cutoff signal input from master control IC (IC801).
14		–	Reserved (ground connection).
15	SQSY	I	Subcode Q-SYNC (SCOR) input from digital signal processor IC (IC121).
16	DQSY	I	Digital-in U-bit format subcode input from digital signal processor IC (IC121).
17		–	Reserved (ground connection).
18		–	Reserved (ground connection).
19		–	Reserved (ground connection).
20	$\overline{\text{SYS-RST}}$	I	System reset input pin “L”: Reset.
21	TEST	I	Test mode pin “L”: Normal mode, “H”: Test mode.
22	+3.3V	–	Power supply terminal (VCC).
23	VBAT	I	Power supply pin for internal RTC and RAM.
24	XOUT-T	O	Sub-clock connector pin (32.768kHz).
25	XINT-T	I	Sub-clock connector pin (32.768kHz).
26	GND	–	Power supply terminal (ground).
27	XOUT	O	Main clock connector pin (12MHz).
28	XIN	I	Main clock connector pin (12MHz).
29	EXEM	I	Switch pin for External ROM mode and Internal ROM mode.
30	S1	–	not used (OPEN).
31		–	Reserved (ground connection).
32	SENS	I	Internal status (SENSE) input from digital signal processor IC (IC121).
33	SHOCK	I	Track-jump detection signal input from digital signal processor IC (IC121).
34		–	Reserved (ground connection).
35		–	Reserved (ground connection).
36	STB	O	Power ON/OFF control signal output.
37	REC P	I	Detection input from REC switch (S688).
38	PB P	I	Detection input from PB switch (S687).
39	LD LOW	O	Loading motor control signal output.
40	NC	–	not used (OPEN).
41	MNT2	I	Monitor 2 input from digital signal processor IC (IC121).
42	MNT3	I	Monitor 3 input from digital signal processor IC (IC121).
43	LEDO	–	not used (OPEN).
44		–	Reserved (ground connection).
45		–	Reserved (ground connection).
46	RST LOW	–	not used (OPEN).
47	GND	–	Power supply terminal (ground).
48	+3.3V	–	Power supply terminal (VCC).
49	SNG/CHG	–	Reserved (ground connection).
50	JOG1	–	Reserved (ground connection).

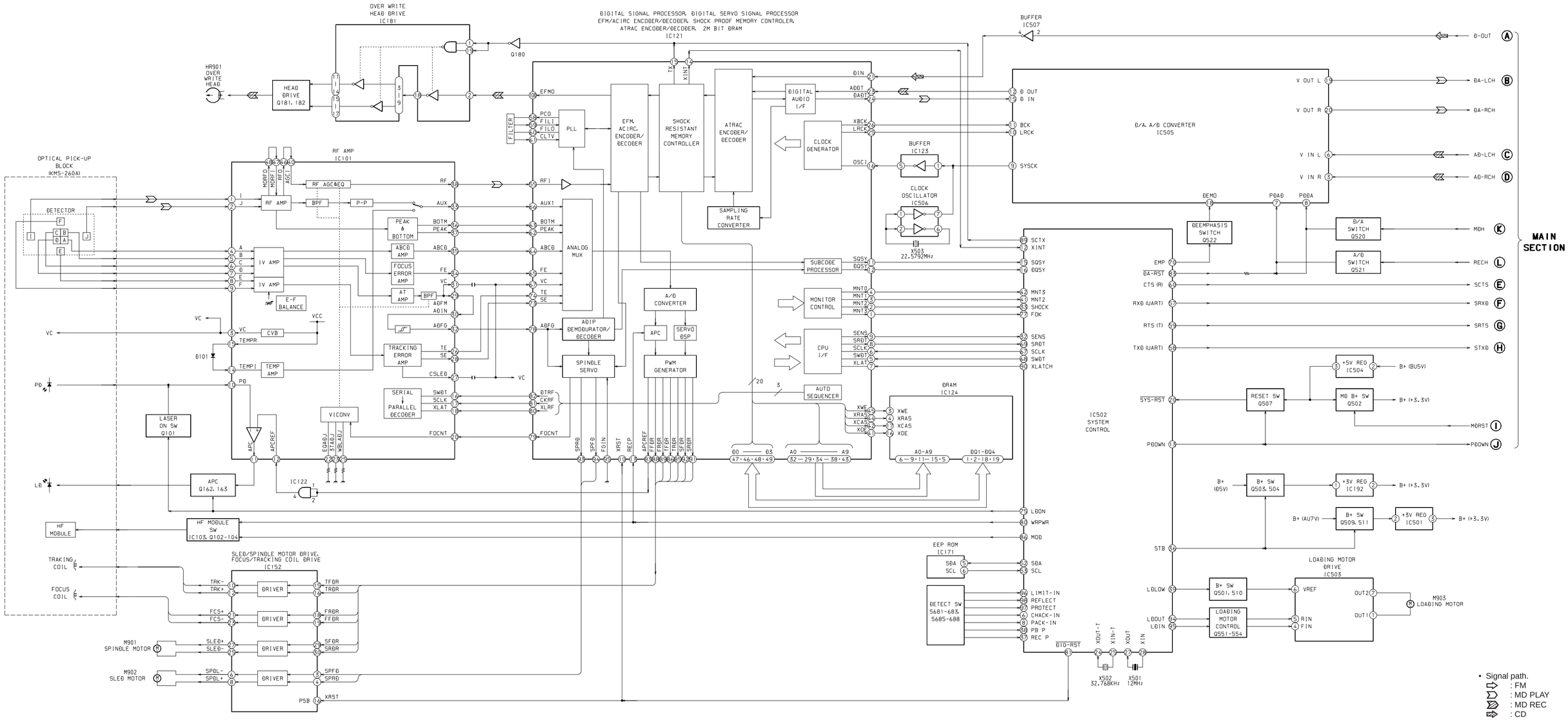
Pin No.	Pin name	I/O	Description
51	JOG0	–	Reserved (ground connection).
52	SDA	I/O	Serial data I/O with EEPROM (IC171).
53	SCL	O	Serial clock output to EEPROM (IC171).
54	2M/4M	–	Reserved (“H” level).
55		–	Reserved (ground connection).
56		–	Reserved (ground connection).
57	RXD (UART)	O	Communication with master control IC (IC801) and UART receive output.
58	TXD (UART)	I	Communication with master control IC (IC801) and UART send input.
59	RTS (T)	I	UART send request input from master control IC (IC801).
60	CTS (R)	O	UART send request output to master control IC (IC801).
61	AUBIT0	–	Reserved (“H” level).
62	AUBIT1	–	Reserved (ground connection).
63	CLKSET0	–	Reserved (ground connection).
64	CLKSET1	–	Reserved (ground connection).
65	GND	–	Power supply pin (ground).
66	+3.3V	–	power supply pin (VCC).
67	SCLK	O	Serial clock output to digital signal processor IC (IC201).
68	SWDT	O	Write data signal output to digital signal processor IC (IC121).
69	SRDT	I	Read data signal input from digital signal processor IC (IC121).
70	EMP	O	Delmphasis ON/OFF control signal output.
71	SCK1	–	not used (OPEN).
72	SOUT1	–	not used (OPEN).
73	SIN1	–	not used (OPEN).
74	CSB	–	Reserved (VCC connection).
75	LDON	O	Laser ON/OFF control signal output.
76	PIT/GRV	–	not used (OPEN).
77	FOK	I	Focus OK signal input from digital signal processor IC (IC121).
78		–	not used (OPEN).
79	LOCK	–	not used (OPEN).
80	WRPWR	O	Laser power switch signal output to digital signal processor IC (IC121).
81	$\overline{\text{DIG-RST}}$	O	Reset signal output.
82		–	not used (OPEN).
83	$\overline{\text{DA-RST}}$	O	Reset signal output to D/A and A/D converters “L”: reset.
84	DSEL-A	–	not used (OPEN).
85	DSEL-B	–	not used (OPEN).
86	MOD	O	MD module ON/OFF control signal output.
87	REC/$\overline{\text{PB}}$	–	not used (OPEN).
88		–	not used (OPEN).
89	SCTX	O	Record data output authorization signal output.
90	XLATCH	O	Serial latch signal output to digital signal processor IC (IC121).
91		–	not used (OPEN).
92		–	not used (OPEN).
93	AMUTE	–	not used (OPEN).
94	LD OUT	O	Loading motor F control signal output.
95	LD IN	O	Loading motor F control signal output.
96	LIMIT IN	I	Detection input from limit switch (S681).
97	PROTECT	I	Record tab detection input from disk write-protect switch (S683).
98	REFLECT	I	Disk reflection rate detection input from reflect switch (S682).
99	GND	–	Power supply terminal (ground).
100	+3.3V	–	Power supply terminal (VCC).

MAIN BOARD (2/2) IC801 SYSYTEM CONTROL (CXP84648-037Q)

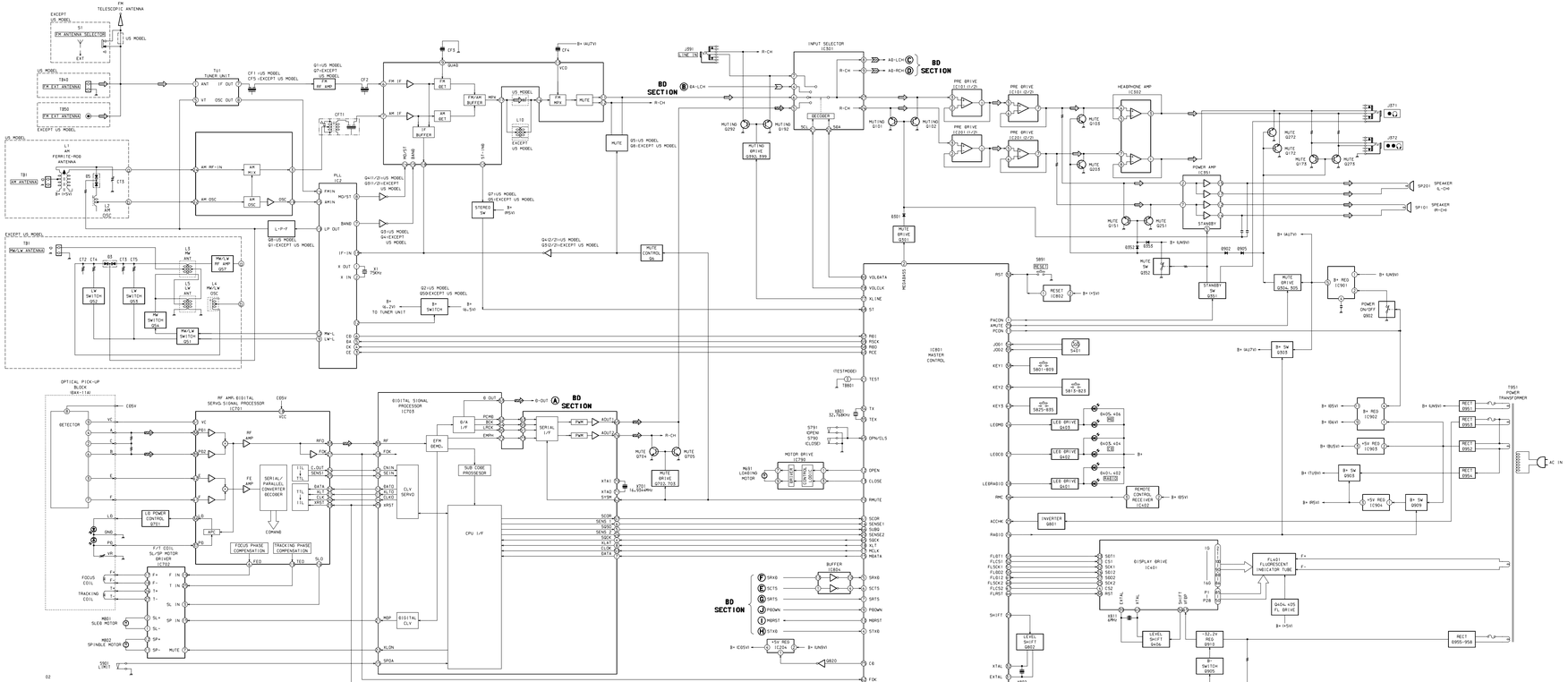
Pin No.	Pin name	I/O	Description
1	PACON	O	Power amplifier control output.
2	MEGABASE	O	Mega-bus control output.
3	RECH	O	A/D converter select output.
4	STXD	O	Communication with MD and UART send output.
5	SRXD	I	Communication with MD and UART receive input.
6	SCTS	I	UART send request input from MD.
7	SRTS	O	UART send request output to MD.
8	MDH	O	D/A converter select output.
9	PDOWN	O	Notification of power cutoff to MD.
10	MDRST	O	Reset MD microcomputer.
11	PCON	O	Power supply control output.
12	OPEN	O	CD tray control output H: Open.
13	CLOSE	O	CD tray control output H: Close.
14	XRST	O	CD system reset output.
15	MDATA	O	CD serial data output.
16	SENSE1	I	CD sense input 1.
17	MCLK	O	CD serial clock output.
18	XLT	O	CD system latch output.
19		–	not used.
20	SENCE2	I	CD sense input 1.
21	TEST	I	Test mode input. “L”: Reset
22	RSMK1	I	Radio-directed setting 1 (+5V connection).
23	RSMK2	I	Radio-directed setting 2 (ground connection).
24	RSMK3	I	Radio-directed setting 3 (ground connection).
25	ACCHK	I	AC power supply detection input. L: AC H: No AC
26	LEDMD	O	LED on during MD.
27	LEDCD	O	LED on during CD.
28	LEDRADIO	O	LED on during radio.
29	SHIFT	O	Shift system clock.
30	RST	I	Hardware reset pin. “L”: Reset
31	EXTAL	I	System clock (5MHz) oscillation input.
32	XTAL	O	System clock (5MHz) oscillation output.
33	VSS		Ground.
34	TX	O	Time clock (32.768kHz) oscillation output.
35	TEX	I	Time clock (32.768kHz) oscillation input.
36	AVSS		Ground for A/D converter.
37	AVREF	I	A/D converter reference voltage input.
38	KEY1	I	Key input (12 stage input) 1.
39	KEY2	I	Key input (12 stage input) 2.
40	KEY3	I	Key input (12 stage input) 3.
41		–	not used (OPEN).
42		–	not used (OPEN).
43		–	not used (OPEN).
44	REGCHK	I	Regulator voltage check input.
45	OPN/CLS	I	CD tray status detection input.
46	FLRST	O	FL microcomputer reset.
47	FLCS2	O	FL name communication and chip select output.
48	FLSCK2	O	FL name communication and clock output.
49	FLDI2	I	FL name communication and data input.
50	FLDO2	O	FL name communication and data output.

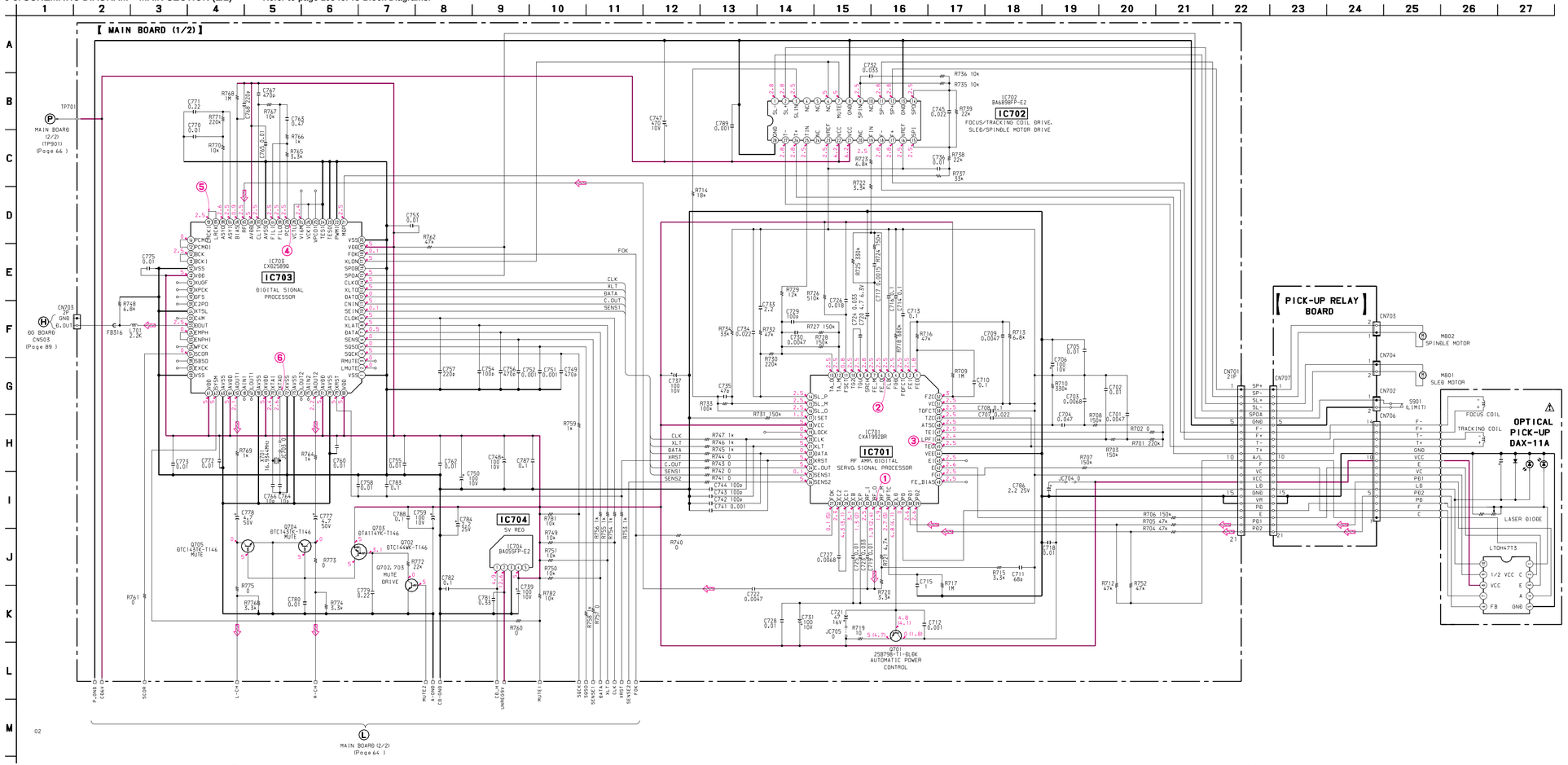
Pin No.	Pin name	I/O	Description
51	FLSCK1	O	Communication with FL microcomputer and clock output.
52	FLCS1	O	FL microcomputer chip select output.
53	FLDT1	O	Communication with FL microcomputer and data output.
54	JOG1	I	JOG dial rotation detection 1 input.
55	JOG2	I	JOG dial rotation detection 2 input.
56	RMC	I	remote control signal input.
57	RDI	I	Radio PLL data input.
58	RDO	O	Radio PLL data output.
59	RSCK	O	Radio PLL clock output.
60	RCE	O	Radio PLL chip enable output.
61	SCOR	I	CD score input.
62	FOK	I	CDFOK input.
63		–	not used (OPEN).
64	EPSD	I/O	EEPROM data I/O.
65	SQCK	O	CDSUBQ clock output.
66	SUBQ	I	CDSUBQ data input.
67	EPSK	O	EEPROM clock output.
68	ST	I	Radio stereo detection. “L”: Mono
69	9/10	I	Radio AM station interval switch. “L”: Set to 9kHz
70	RMUTE	O	Radio mute output.
71	EPCS	O	EEPROM chip select output.
72	VDD	–	Power supply terminal (+5V).
73	NC	–	VDD connection.
74	MD	–	not used (OPEN).
75	CD	O	CD function output.
76	RADIO	O	Radio function output.
77	XLINE	O	Line function output.
78	VOCLK	O	Serial data output for volume.
79	AMUTE	O	Audio mute output.
80	VOLDATA	O	Serial clock output for volume.

6-2. BLOCK DIAGRAM (1)

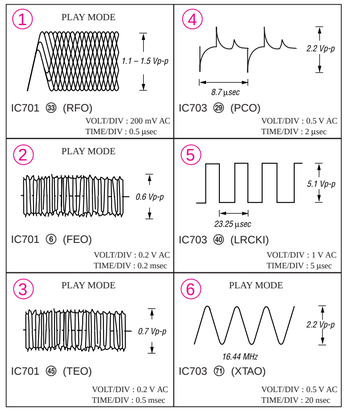


02


BD SECTION
BD SECTION
BD SECTION



● Waveforms – Main Section (1/2) –



Note:
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- ▬▬ : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD (STOP)
  ( ) : CD (PLAY)
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

6-6. SCHEMATIC DIAGRAM – MAIN SECTION (2/2) –

● Waveforms – Main Section (2/2) –

1

IC801 ⑭ XTAL
VOLT/DIV : 0.5 V AC
TIME/DIV : 50 nsec

2

IC801 ⑭ TX
VOLT/DIV : 1 V AC
TIME/DIV : 10 µsec

Note:

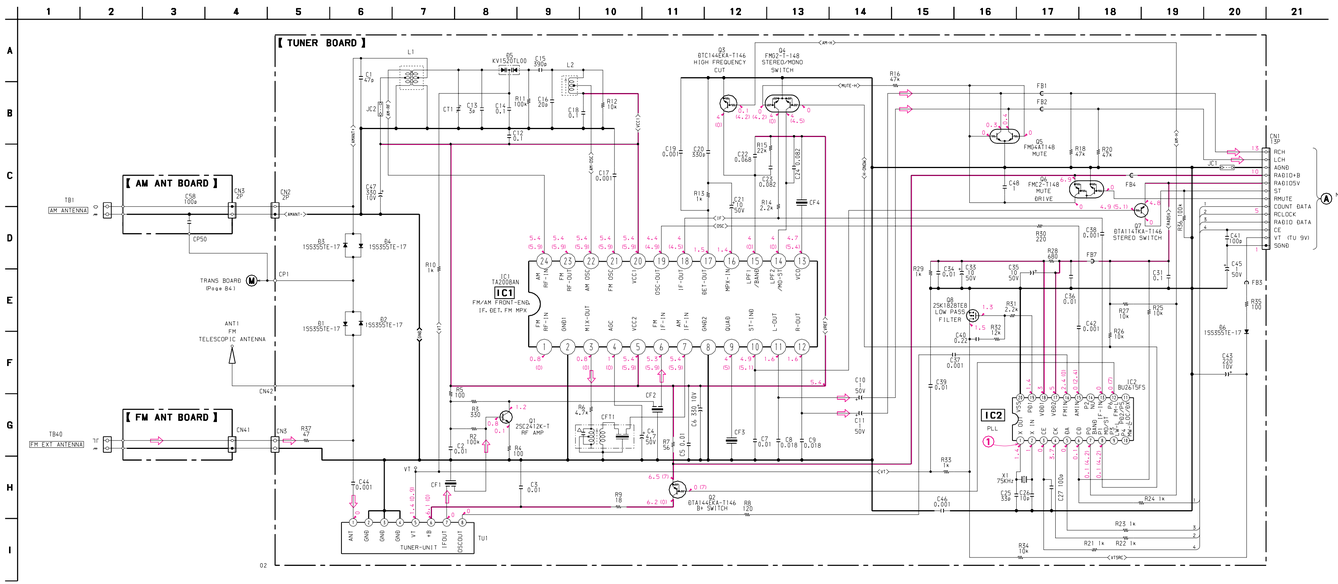
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- ▬▬ : B+ Line.
- ▬ ▬ : B– Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD (STOP)
  ( ) : CD (PLAY)
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ⇨ : MD PLAY
  ⇨ : MD REC
  ⇨ : CD

6-7. PRINTED WIRING BOARDS – TUNER SECTION (US MODEL) – ● Refer to page 53 for Circuit Boards Location.

● **Semiconductor Location**

Ref. No.	Location
D1	G-2
D2	G-2
D3	G-1
D4	G-1
D5	H-3
D6	G-6
IC1	G-4
IC2	F-8
Q1	E-5
Q2	F-5
Q3	H-9
Q4	G-9
Q5	G-5
Q6	H-6
Q7	H-8
Q8	G-8

6-8. SCHEMATIC DIAGRAM – TUNER SECTION (US MODEL) – ● Refer to page 102 for IC Block Diagrams.



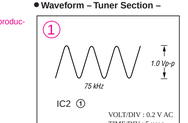
Note:
- ⟐—: parts extracted from the component side.
- ▒▒▒: Pattern on the side which is seen.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

Note:
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ⏚ : internal component.
- ——— : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM

● **Waveform – Tuner Section –**



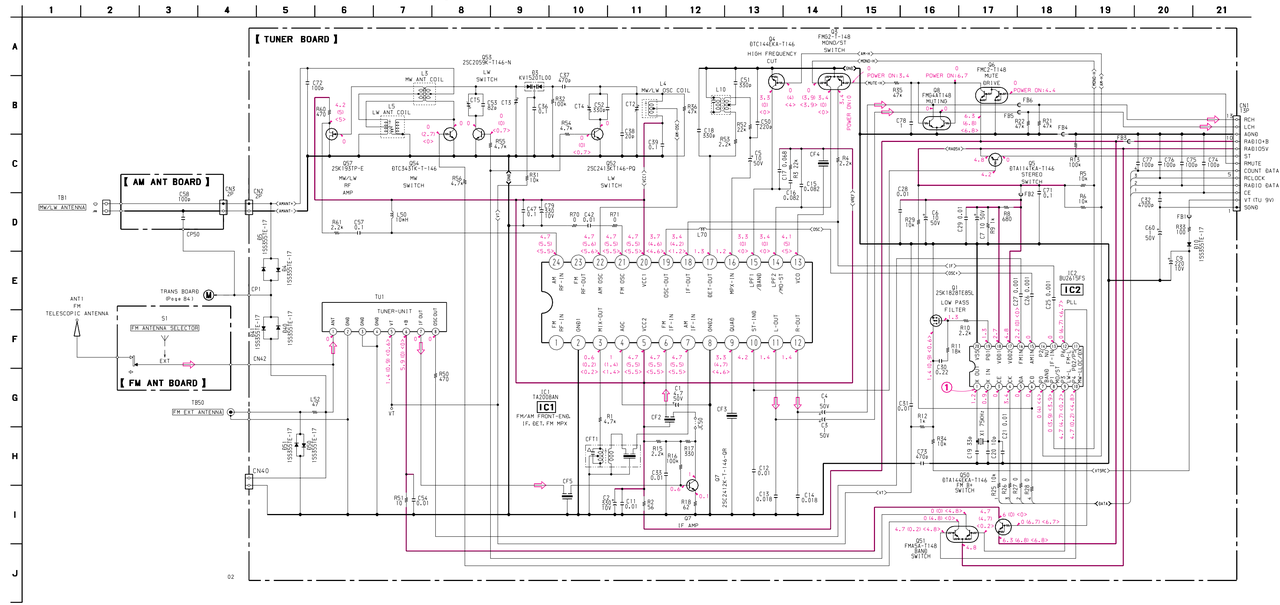
6-9. PRINTED WIRING BOARDS – TUNER SECTION (EXCEPT US MODEL) –

- **Semiconductor Location**

Ref. No.	Location
D3	H-3
D4	G-1
D5	G-1
D10	G-6
D40	G-2
D41	G-2
D50	F-3
D51	F-3
IC1	G-4
IC2	F-8
Q1	G-8
Q3	G-9
Q4	H-9
Q5	H-8
Q6	H-6
Q7	E-5
Q8	G-5
Q50	F-5
Q51	H-8
Q52	H-4
Q53	H-3
Q54	G-2
Q57	H-3

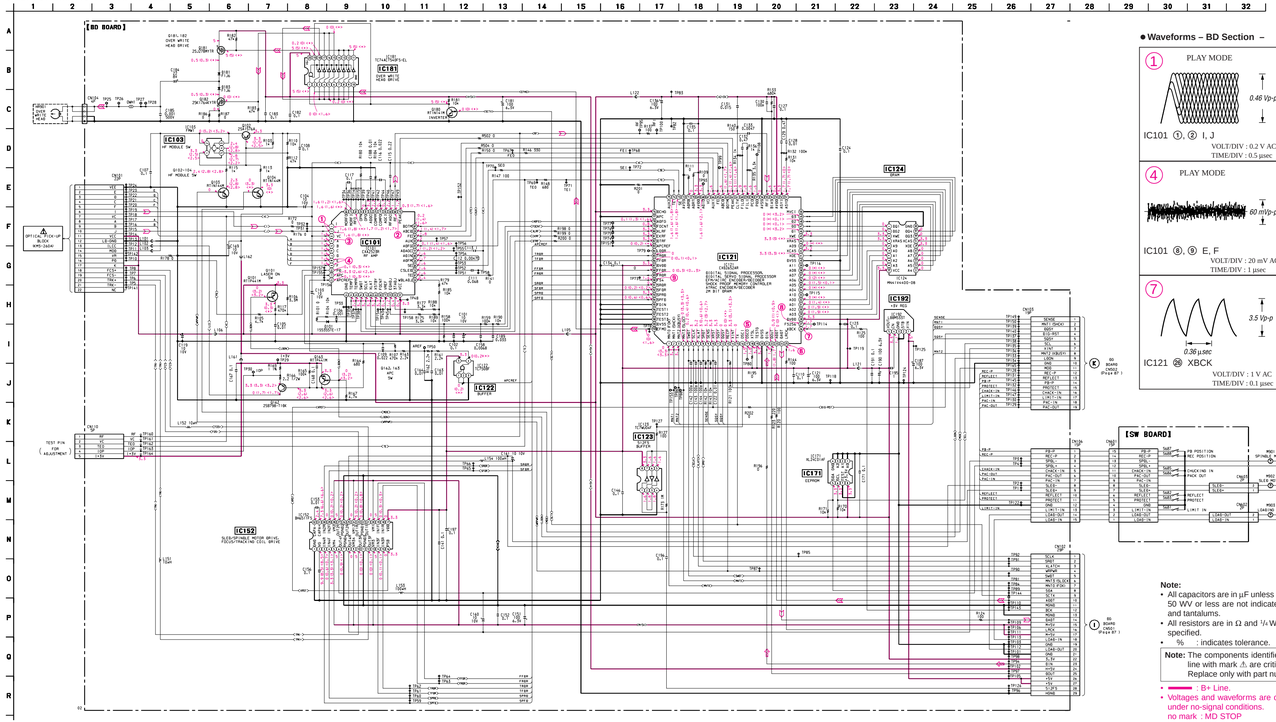
6-10. SCHEMATIC DIAGRAM – TUNER SECTION (EXCEPT US MODEL) –

● Refer to page 102 for IC Block Diagrams.


【 TUNER BOARD 】
【 AM ANT BOARD 】
【 FM ANT BOARD 】
TRANS BOARD (Page 84)
FM ANTENNA SELECTOR
TUNER-UNIT
MAIN BOARD (2/2) CN80 (Page 64)
IC1 TA2008AN FM/AM FRONT-END, IF, DET, FM MPX
IC2 BU9479FS PLL
IC3 BA1411A-T146 STEREO SWITCH
IC4 BTC144EX-T146 HIGH FREQUENCY CUT
IC5 FMS627-T148 MONO/ST SWITCH
IC6 FMC2714B MUTE DRIVE
IC7 FMS4714B MUTING
IC8 FMS4714B BAND SWITCH
IC9 25K1838TE85L LOW PASS FILTER
Q1 25K1597P-E MW/LW RF AMP
Q2 BTC84EX-T146 MW SWITCH
Q3 2SC2412K-T146-QR IF AMP
Q4 2SC2412K-T146-PQ LW SWITCH
Q5 2SC2053K-T146-N LW SWITCH
Q6 KV1530TL00 VARICAP
Q7 BTA114EX-T146 LW/MW SWITCH
L1 MW ANT COIL
L2 LW ANT COIL
L3 MW OSC COIL
L4 MW/LW OSC COIL
L5 LW ANT COIL
TB1 MW/LW ANTENNA
TB50 FM EXT ANTENNA
ANT1 FM TELESCOPIC ANTENNA
S1 FM ANTENNA SELECTOR
CN1 TO MAIN BOARD (2/2) CN80 (Page 64)
CN2 TO MAIN BOARD (2/2) CN80 (Page 64)
CN42 TO MAIN BOARD (2/2) CN80 (Page 64)
CN44 TO MAIN BOARD (2/2) CN80 (Page 64)
CN45 TO MAIN BOARD (2/2) CN80 (Page 64)
CN46 TO MAIN BOARD (2/2) CN80 (Page 64)
CN47 TO MAIN BOARD (2/2) CN80 (Page 64)
CN48 TO MAIN BOARD (2/2) CN80 (Page 64)

6-11. SCHEMATIC DIAGRAM – BD SECTION –

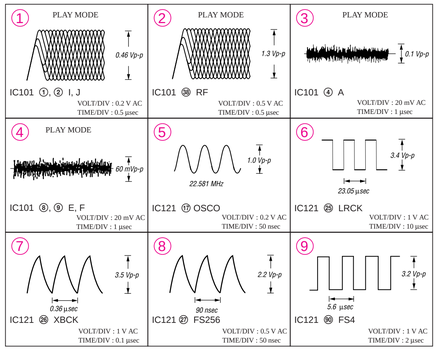
● Refer to page 100 for IC Block Diagrams.



6-12. PRINTED WIRING BOARDS – BD SECTION –

● Refer to page 53 for Circuit Boards Location.

● Waveforms – BD Section –



● Semiconductor Location

Ref. No.	Location
D101	E-4
D181	C-9
D183	C-9
IC101	E-13
IC103	B-13
IC121	D-11
IC122	C-5
IC123	D-10
IC124	E-11
IC152	B-11
IC171	E-9
IC181	D-9
IC192	F-7
Q101	C-13
Q102	B-14
Q103	B-13
Q104	C-13
Q162	B-13
Q163	B-14
Q180	D-7
Q181	C-9
Q182	C-9

Note:
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

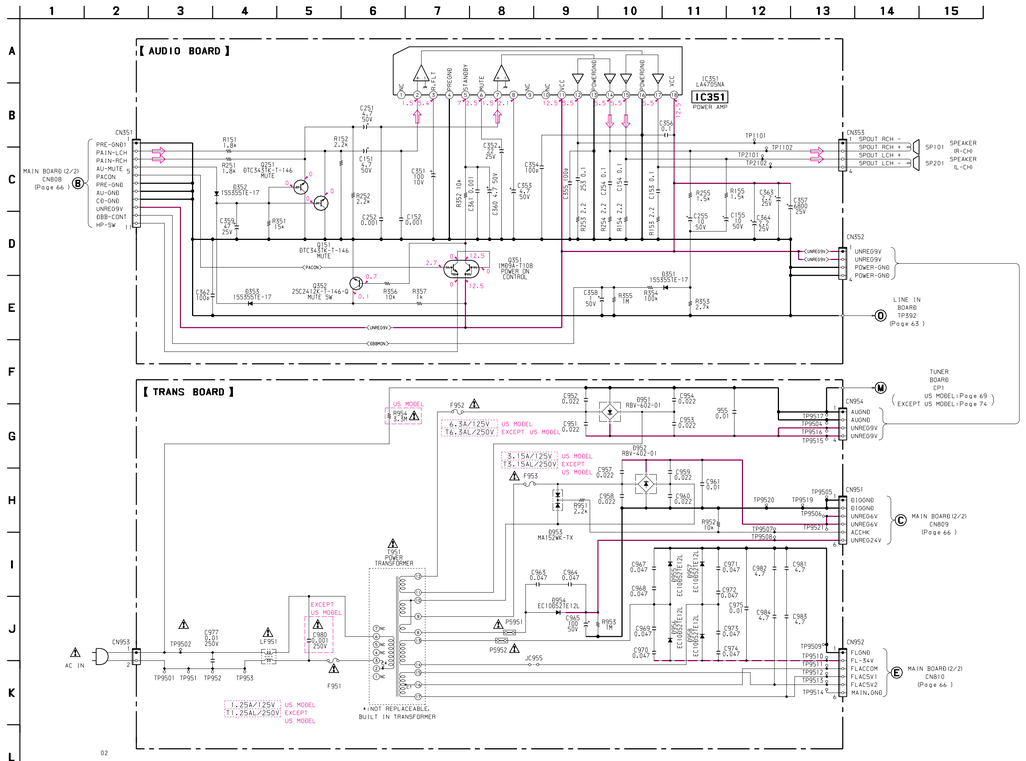
- ▬▬ : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : MD STOP
  ( ) : MD PLAY
  < > : MD REC
  » : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : MD PLAY
  : MD REC
  : CD

Note:
- ▭ : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

6-13. SCHEMATIC DIAGRAM – POWER SECTION –



Note:
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- ——— : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions. no mark : FM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.

6-14. PRINTED WIRING BOARDS – POWER SECTION –

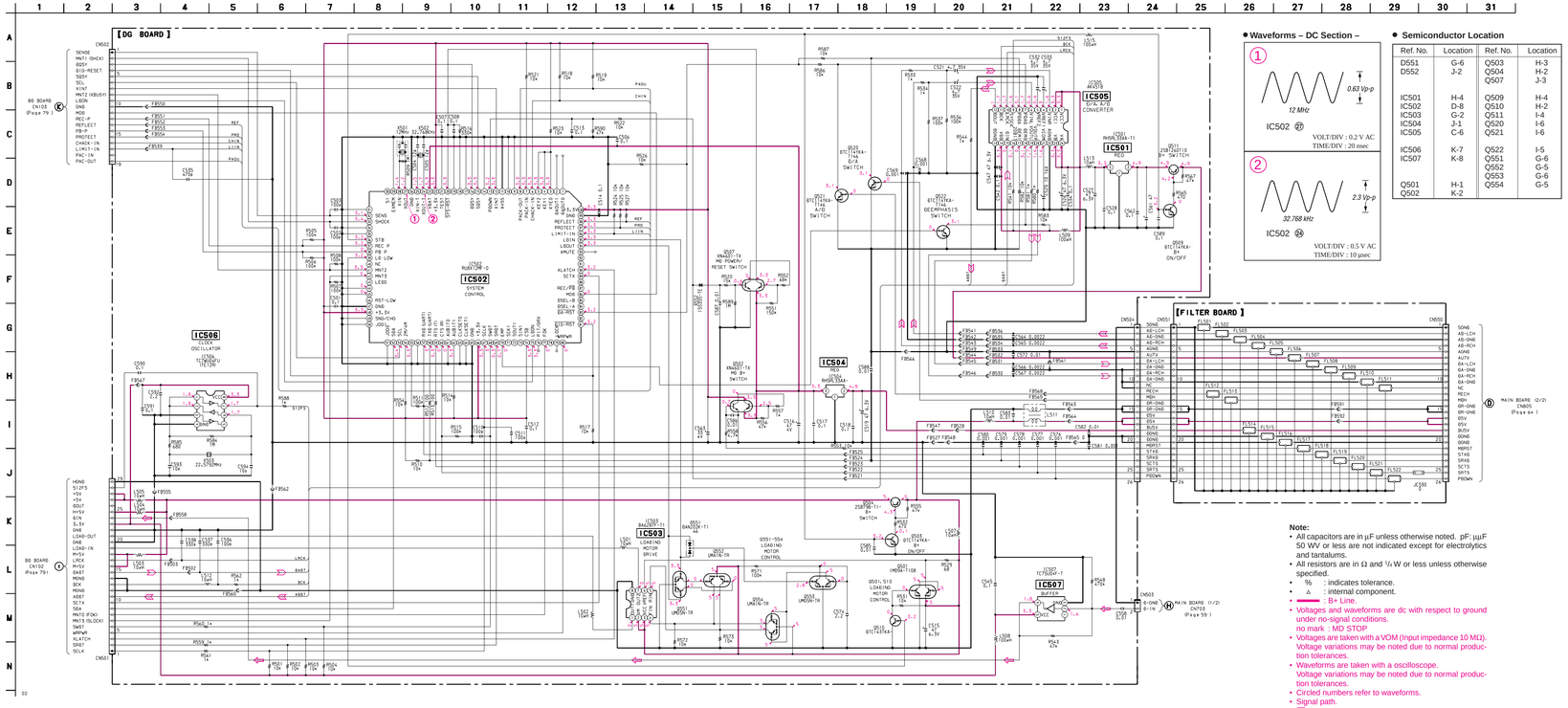
- **Semiconductor Location**

Ref. No.	Location
D351	C-3
D352	C-2
D353	C-2
D951	C-6
D952	C-5
(EXCEPT US MODEL)	
D-952	C-14
(US MODEL)	
D953	D-6
(EXCEPT US MODEL)	
D-953	D-14
(US MODEL)	
D954	E-6
D955	F-7
D956	E-8
D957	F-7
D958	F-8
IC351	D-1
Q151	C-2
Q251	C-2
Q351	C-2
Q352	C-2

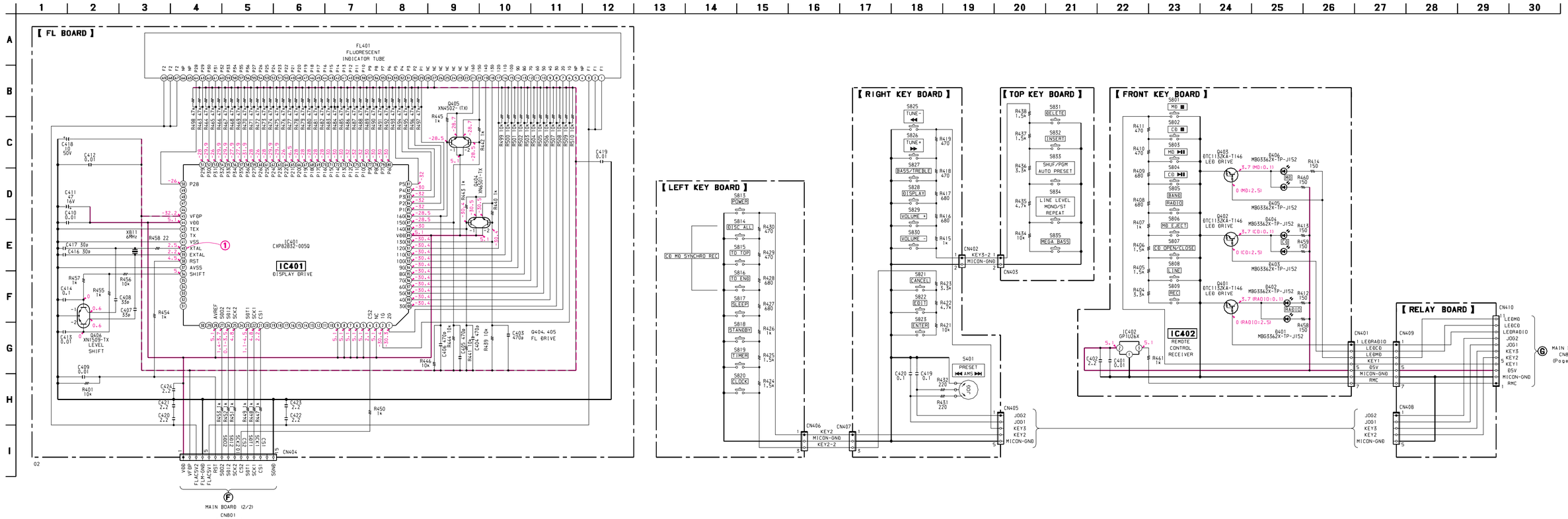
Note:
- ○——○ : parts extracted from the component side.
- ▪ : Pattern of the rear side.
- ▪ : Pattern on the side which is seen.

6-15. SCHEMATIC DIAGRAM – DG SECTION –

● Refer to page 102 for IC Block Diagrams.



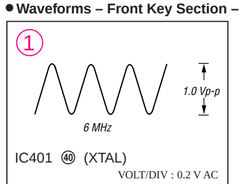
6-18. SCHEMATIC DIAGRAM – FRONT KEY SECTION –



Note:

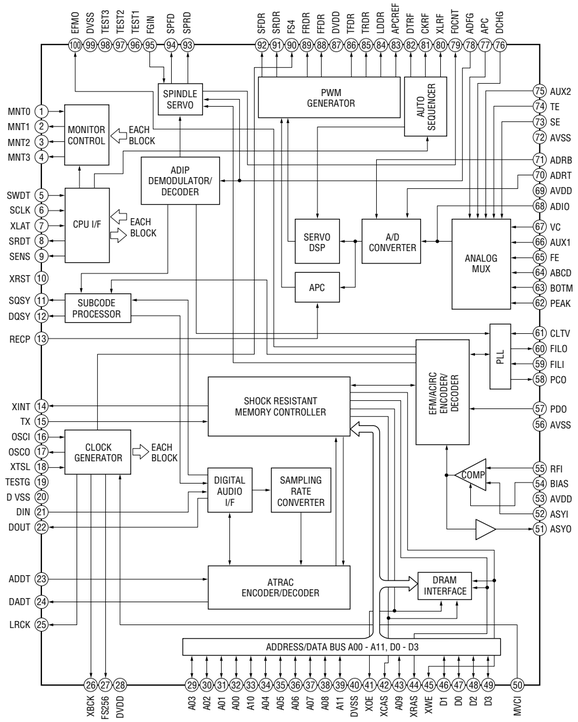
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▬▬ : B+ Line.
- ▬ ▬ ▬ : B– Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

● **Waveforms – Front Key Section –**

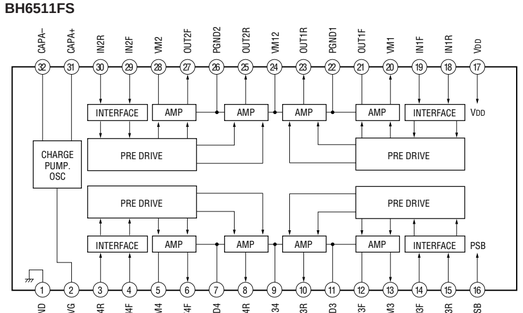


● IC Block Diagrams – BD Section –

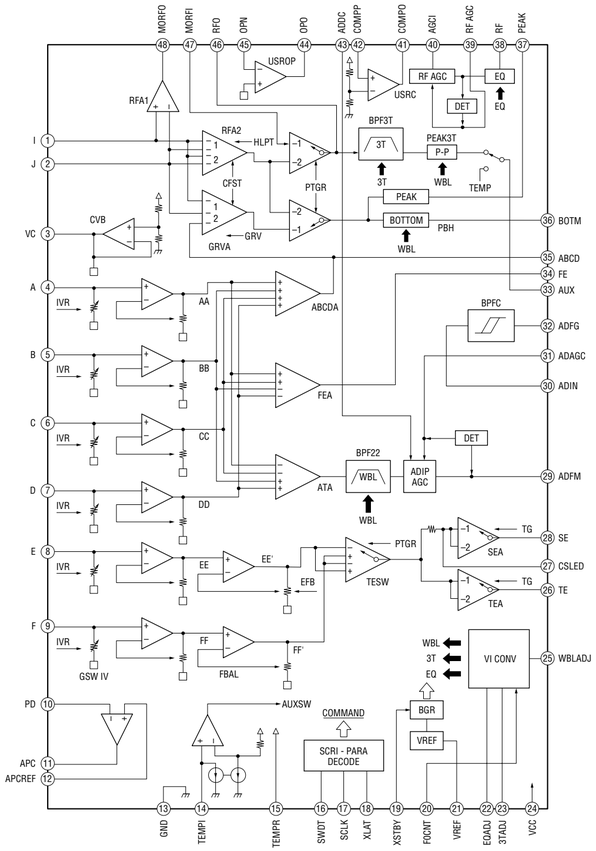
IC121 CXD2652AR



IC152 BH6511FS

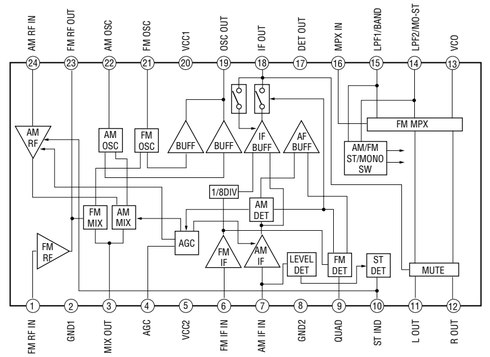


IC101 CXA2523R

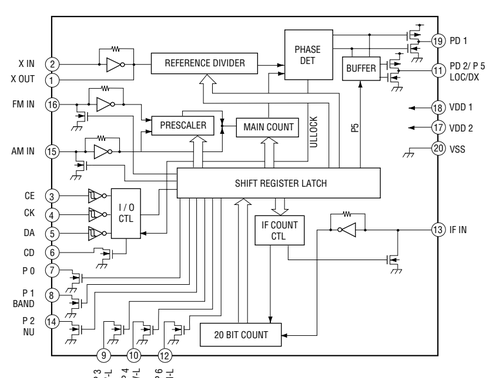


● IC Block Diagrams – Tuner Section –

IC1 TA2008AN

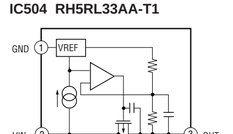


IC2 BU2615FS



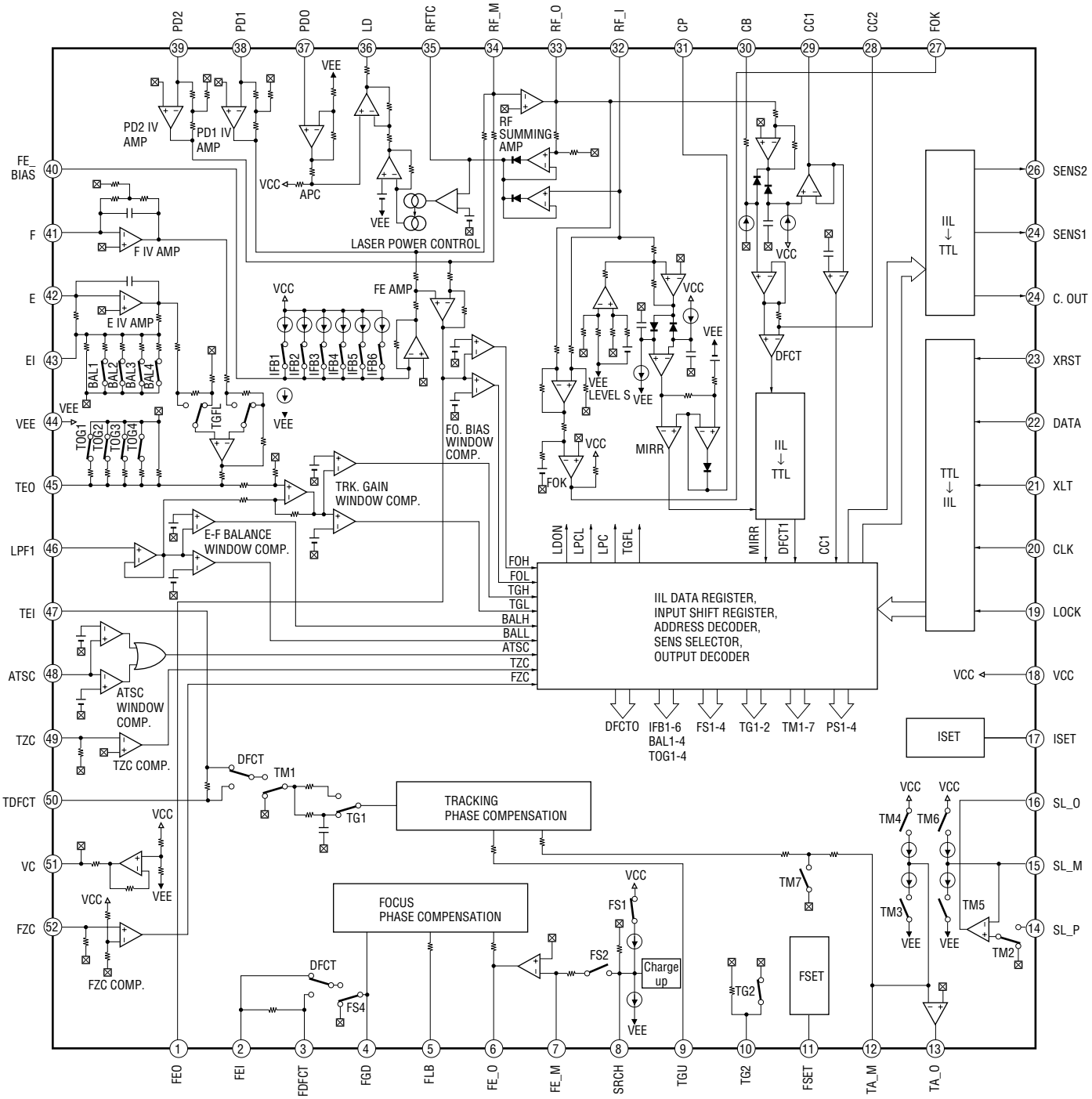
● IC Block Diagrams (DG Section)

IC504 RH5RL33AA-T1

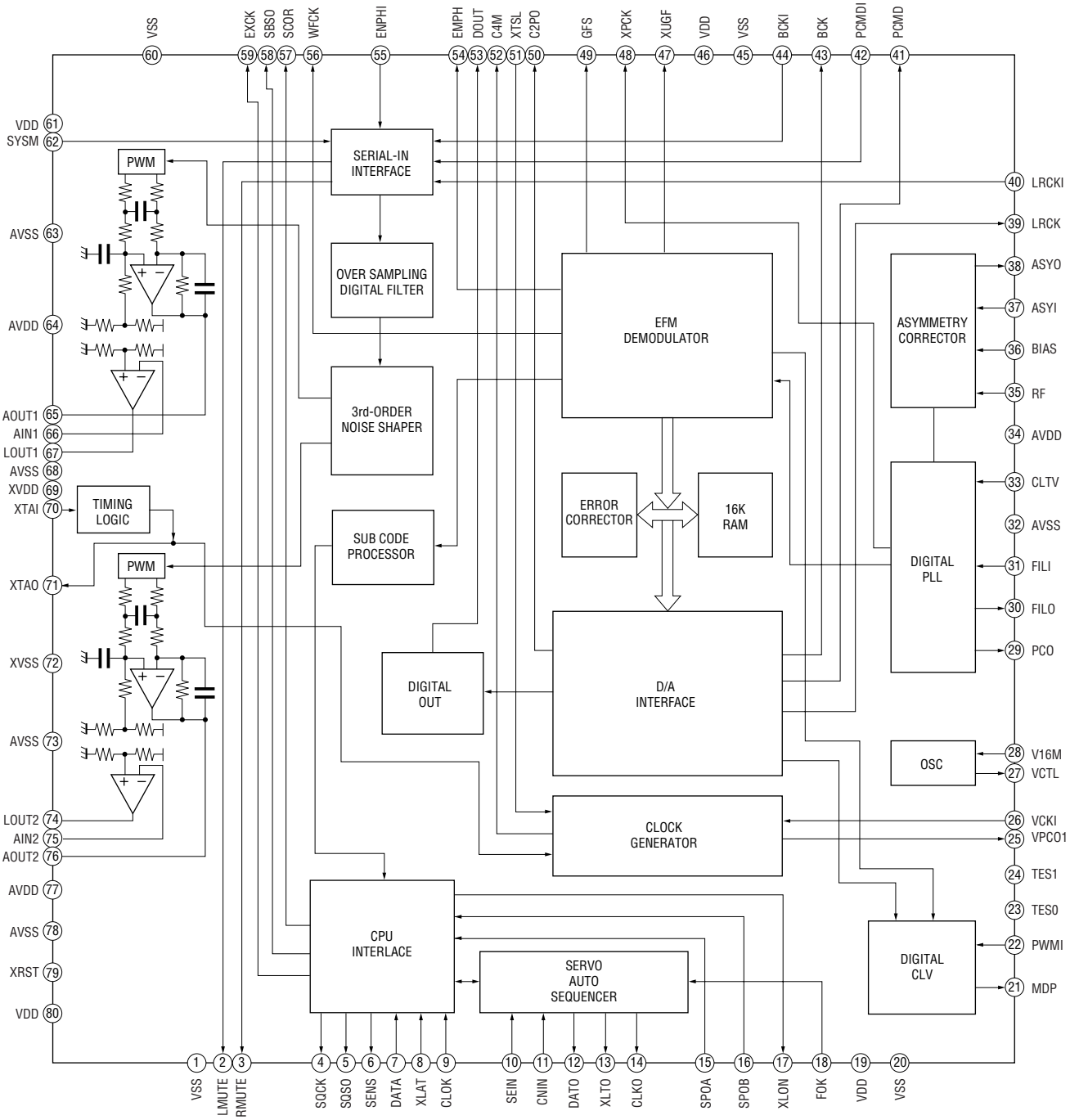


- **IC Block Diagrams – Main Section –**

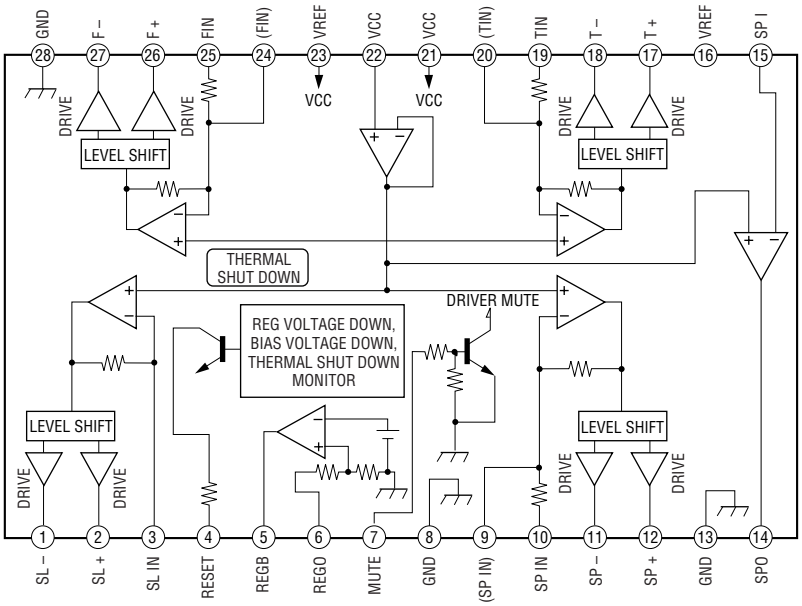
IC701 CXA1992BR



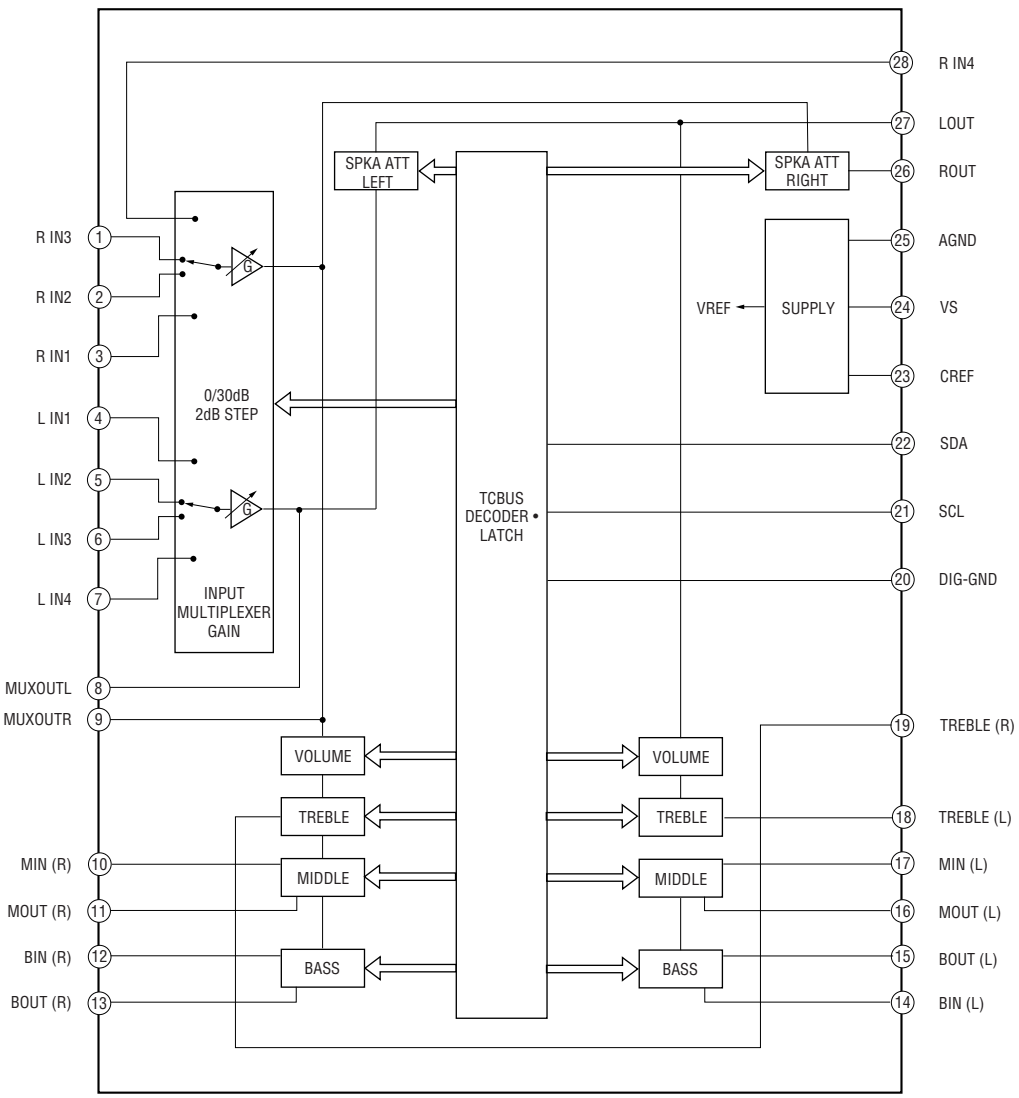
IC703 CXD2589Q



IC702 BA6898FP



IC301 TDA7439D013TR



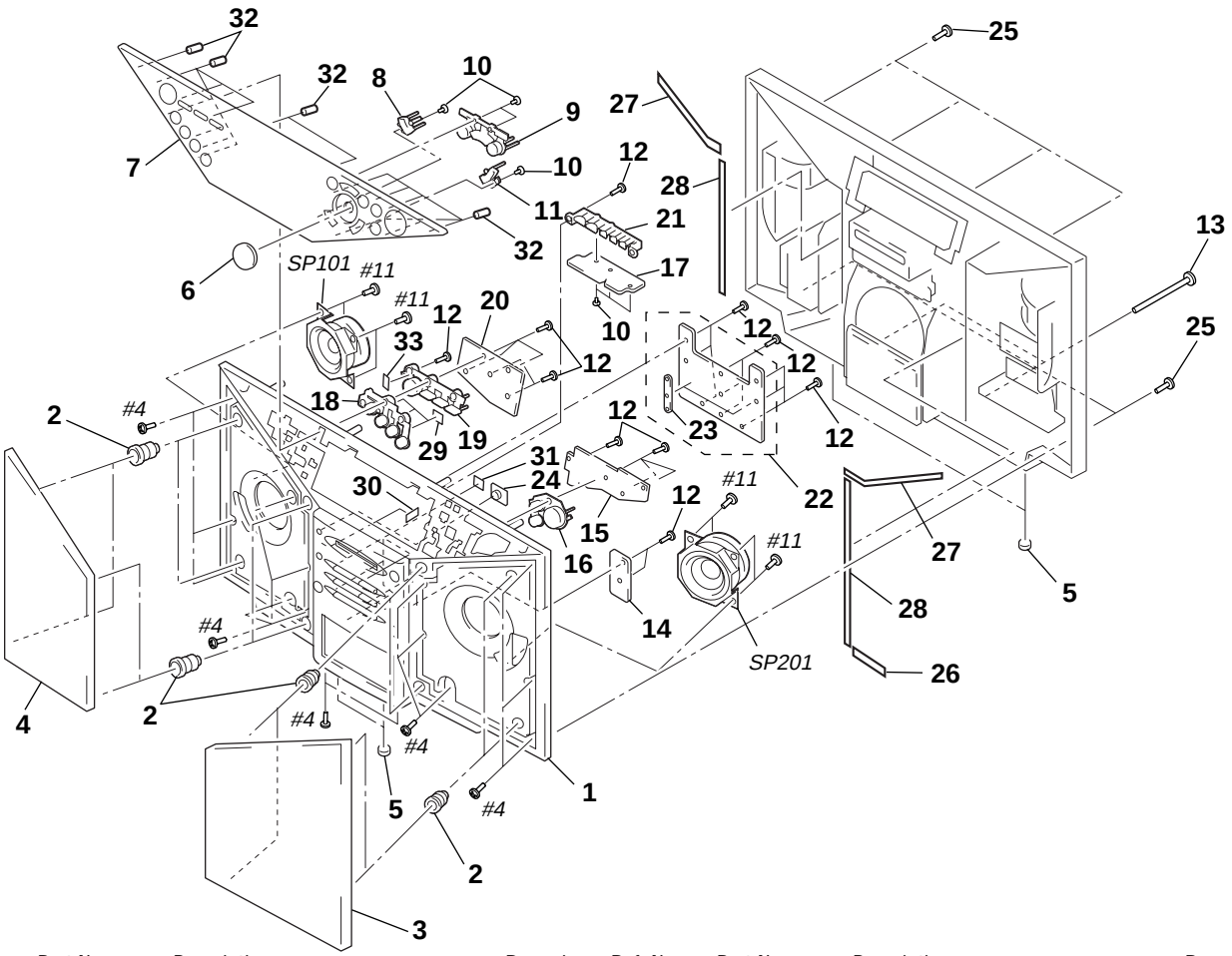
SECTION 7
EXPLODED VIEWS

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  EE : East European
  JE : Tourist

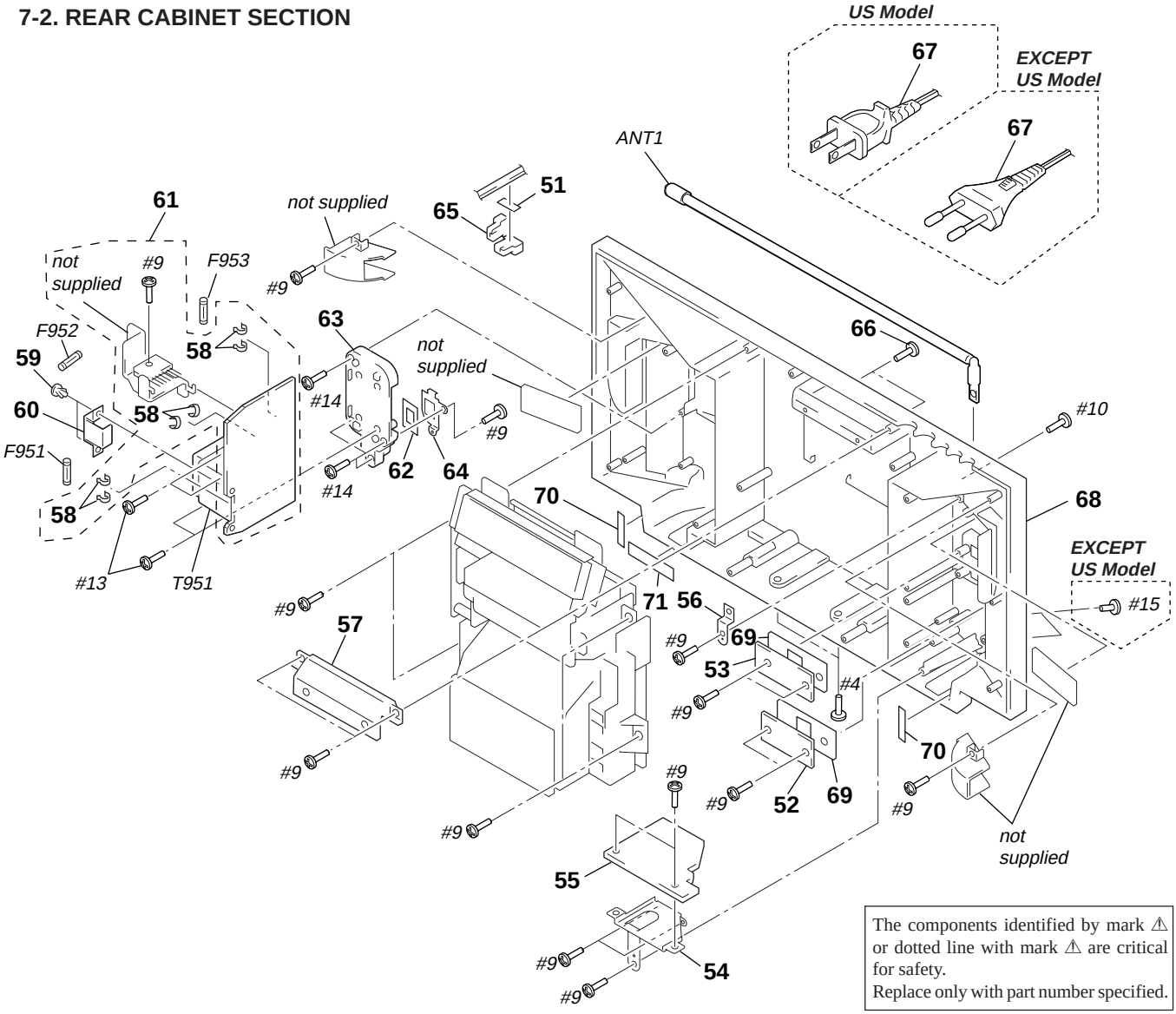
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

7-1. FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	X-3374-653-1	CABINET (FRONT) SUB ASSY	
* 2	4-963-075-01	CATCHER	
3	X-3374-656-1	NET (R) ASSY, SP	
4	X-3374-655-1	NET (L) ASSY, SP	
5	3-023-288-01	SPACER (RUBBER FOOT)	
6	3-019-664-01	KNOB (JOG)	
7	3-019-652-01	PANEL	
8	3-019-659-01	BUTTON (CAN/ENT)	
9	3-019-658-01	BUTTON (EDIT)	
10	3-022-992-01	SCREW, WASHER HEAD	
11	3-019-659-11	BUTTON (CAN/ENT)	
12	4-931-757-31	SCREW(DIA.2.6X8)(IT3B),TAPPING	
13	3-020-473-01	SCREW (3X45)	
* 14	1-668-258-31	RELAY BOARD (US)	
* 14	1-668-258-21	RELAY BOARD (EXCEPT US)	
* 15	1-668-246-21	RIGHT KEY BOARD (EXCEPT US)	
* 15	1-668-246-31	RIGHT KEY BOARD (US)	
16	3-019-660-01	BUTTON (VOL)	
* 17	1-668-245-21	TOP KEY BOARD (EXCEPT US)	
* 17	1-668-245-31	TOP KEY BOARD (US)	
18	3-019-662-01	BUTTON (CLOCK)	
19	3-019-661-01	BUTTON (POWER) (US)	
19	3-019-661-11	BUTTON (POWER) (EXCEPT US)	
* 20	1-668-243-21	LEFT KEY BOARD (EXCEPT US)	
* 20	1-668-243-31	LEFT KEY BOARD (US)	
21	3-019-663-01	BUTTON (MEGABASS)	
* 22	A-3321-557-A	FRONT KEY BOARD, COMPLETE (EXCEPT US)	
* 22	A-3321-539-A	FRONT KEY BOARD, COMPLETE (US)	
23	3-020-475-01	HOLDER (LED)	
24	3-025-864-01	COVER (REMOTE CONTROL WINDOW)	
25	4-931-757-91	SCREW (DIA. 2.6) (IT3B)	
* 26	3-378-433-01	CUSHION, SARANET	
27	3-026-848-01	CUSHION	
28	3-026-849-01	CUSHION	
29	3-338-596-01	CUSHION (EXCEPT US)	
30	3-022-197-01	CUSHION (JACK)	
31	3-026-450-01	CUSHION	
32	3-026-295-01	BLIND (BOSS)	
33	3-026-779-01	CUSHION	
SP101	1-505-829-11	SPEAKER (8cm) (L-CH)	
SP201	1-505-829-11	SPEAKER (8cm) (R-CH)	

7-2. REAR CABINET SECTION

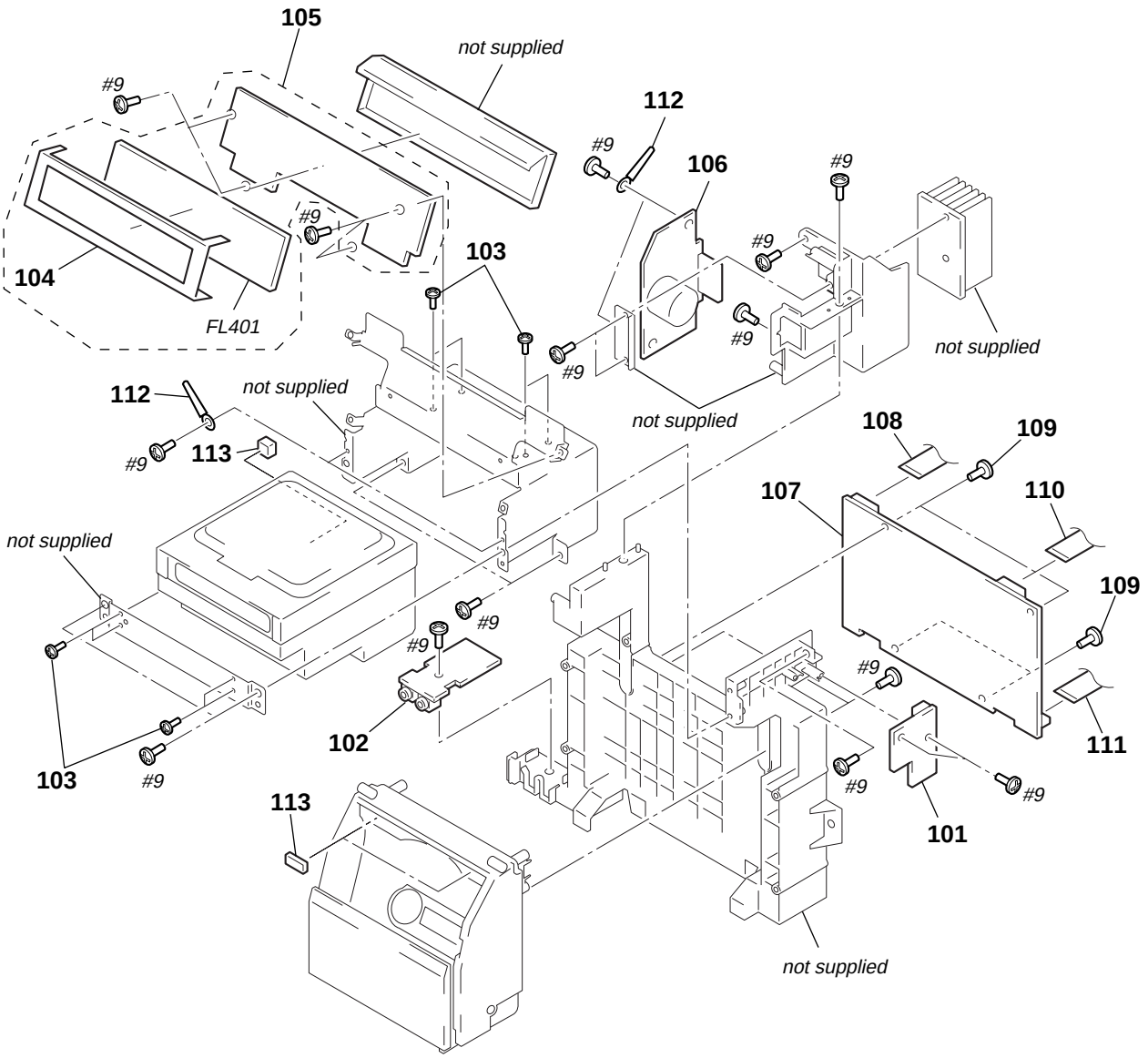


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
51	3-009-989-01	CUSHION (HANDLE)	
* 52	1-668-255-21	AM ANT BOARD (EXCEPT US)	
* 52	1-668-255-31	AM ANT BOARD (US)	
* 53	1-668-254-21	FM ANT BOARD (EXCEPT US)	
* 53	1-668-254-31	FM ANT BOARD (US)	
54	3-019-682-01	BRACKET (TUNER)	
* 55	A-3321-562-A	TUNER BOARD, COMPLETE (EXCEPT US)	
* 55	A-3321-536-A	TUNER BOARD, COMPLETE (US)	
56	3-019-683-01	TERMINAL BOARD, ANTENNA	
57	3-019-665-01	HANDLE	
58	1-533-293-11	FUSE HOLDER	
59	4-812-134-00	RIVET (DIA. 3.5), NYLON	
60	3-023-950-01	COVER, FUSE	
* 61	A-3321-535-A	TRANS BOARD, COMPLETE (US)	
* 61	A-3321-561-A	TRANS BOARD, COMPLETE (EXCEPT US)	
62	3-023-747-01	PACKING (CORD)	
63	3-019-668-01	BRACKET (TRANSFORMER)	
64	3-019-681-01	BRACKET (POWER CORD)	
* 65	3-703-244-00	BUSHING (2104), CORD	

Ref. No.	Part No.	Description	Remark
66	4-931-757-31	SCREW (DIA. 2.6X8) (IT3B)	
⚠67	1-783-531-31	CORD, POWER (US)	
⚠67	1-575-651-21	CORD, POWER (EXCEPT US)	
68	X-3376-404-1	CABINET REAR ASSY (US)	
68	X-3376-405-1	CABINET REAR ASSY (EXCEPT US)	
69	3-023-746-11	PACKING (TU)	
70	3-378-434-01	CUSHION, SARANET	
71	3-378-121-01	CUSHION, SARANET	
ANT1	1-501-480-11	ANTENNA, TELESCOPIC	
⚠F951	1-576-101-11	FUSE (1.25A/125V) (US)	
⚠F951	1-532-502-51	FUSE, TIME LAG (T1.25AL/250V) (EXCEPT US)	
⚠F952	1-533-310-11	FUSE, GLASS TUBE (6.3A/125V) (US)	
⚠F952	1-532-506-51	FUSE, TIME LAG (T6.3AL/250V) (EXCEPT US)	
⚠F953	1-532-465-51	FUSE, TIME LAG (T3.15AL/250V) (EXCEPT US)	
⚠F953	1-576-107-11	FUSE (3.15A/125V) (US)	
⚠T951	1-433-445-11	TRANSFORMER, POWER (US)	
⚠T951	1-433-444-11	TRANSFORMER, POWER (EXCEPT US)	

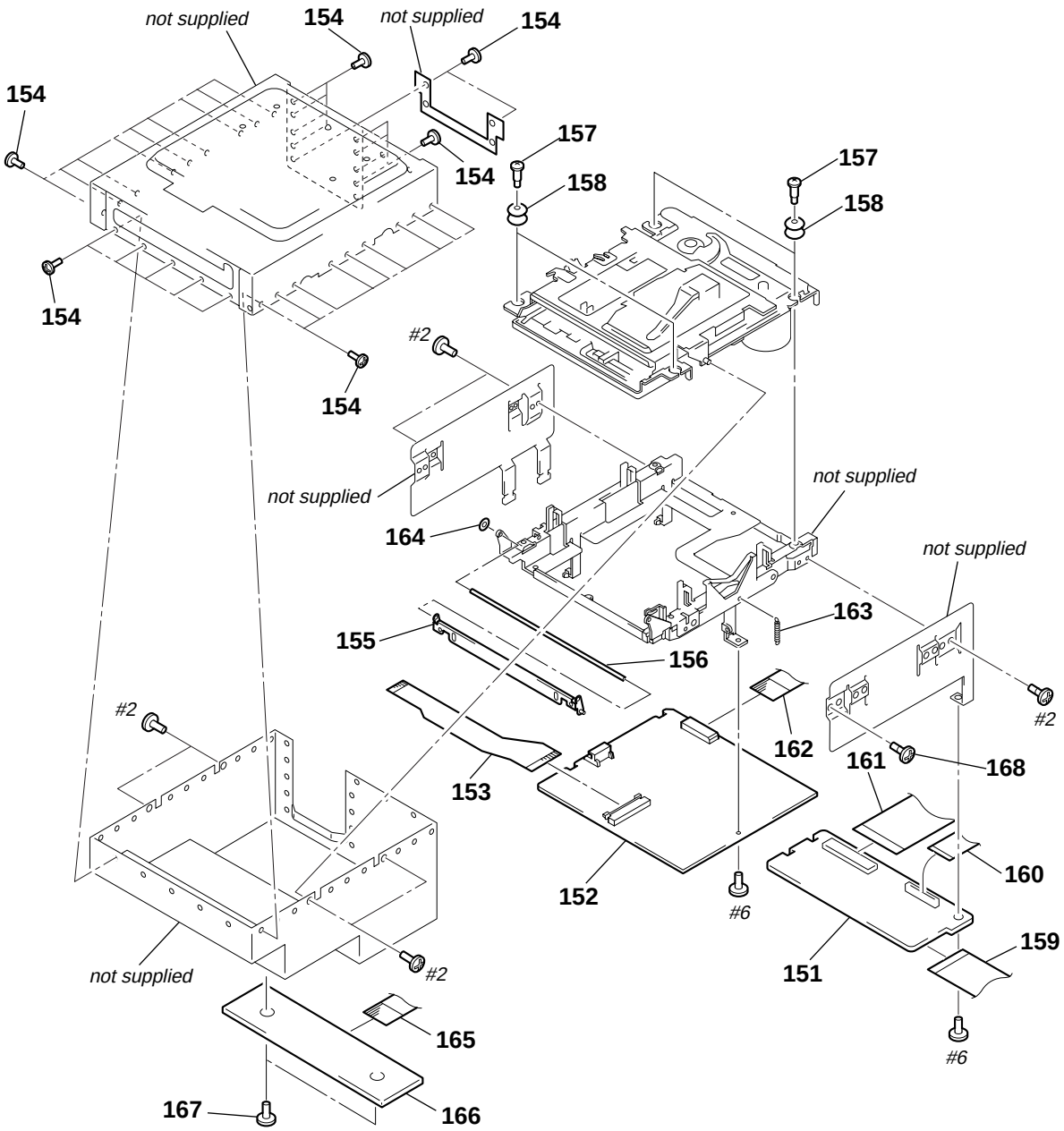
7-3. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 101	1-668-249-21	LINE IN BOARD (EXCEPT US)	
* 101	1-668-249-31	LINE IN BOARD (US)	
* 102	1-668-250-31	HP BOARD (US)	
* 102	1-668-250-21	HP BOARD (EXCEPT US)	
103	3-321-041-41	SCREW (M1.7X5), TAPPING	
104	3-019-671-01	HOLDER (FL)	
* 105	A-3323-036-A	FL BOARD, COMPLETE (EXCEPT US)	
* 105	A-3323-029-A	FL BOARD, COMPLETE (US)	
* 106	A-3321-573-A	AUDIO BOARD, COMPLETE (EXCEPT US)	
* 106	A-3321-552-A	AUDIO BOARD, COMPLETE (US)	

Ref. No.	Part No.	Description	Remark
* 107	A-3321-544-A	MAIN BOARD, COMPLETE (US)	
* 107	A-3321-565-A	MAIN BOARD, COMPLETE (EXCEPT US)	
108	1-783-539-11	WIRE, PARALLEL (FFC) (15 CORE)	
109	4-931-757-31	SCREW(DIA.2.6X8)(IT3B),TAPPING	
110	1-783-537-11	WIRE, PARALLEL (21 CORE)	
111	1-783-538-11	WIRE, PARALLEL (FFC) (13 CORE)	
* 112	3-703-150-11	CLAMP	
113	3-031-392-01	CUSHION (CD)	
FL401	1-517-744-11	INDICATOR TUBE, FLUORESCENT	

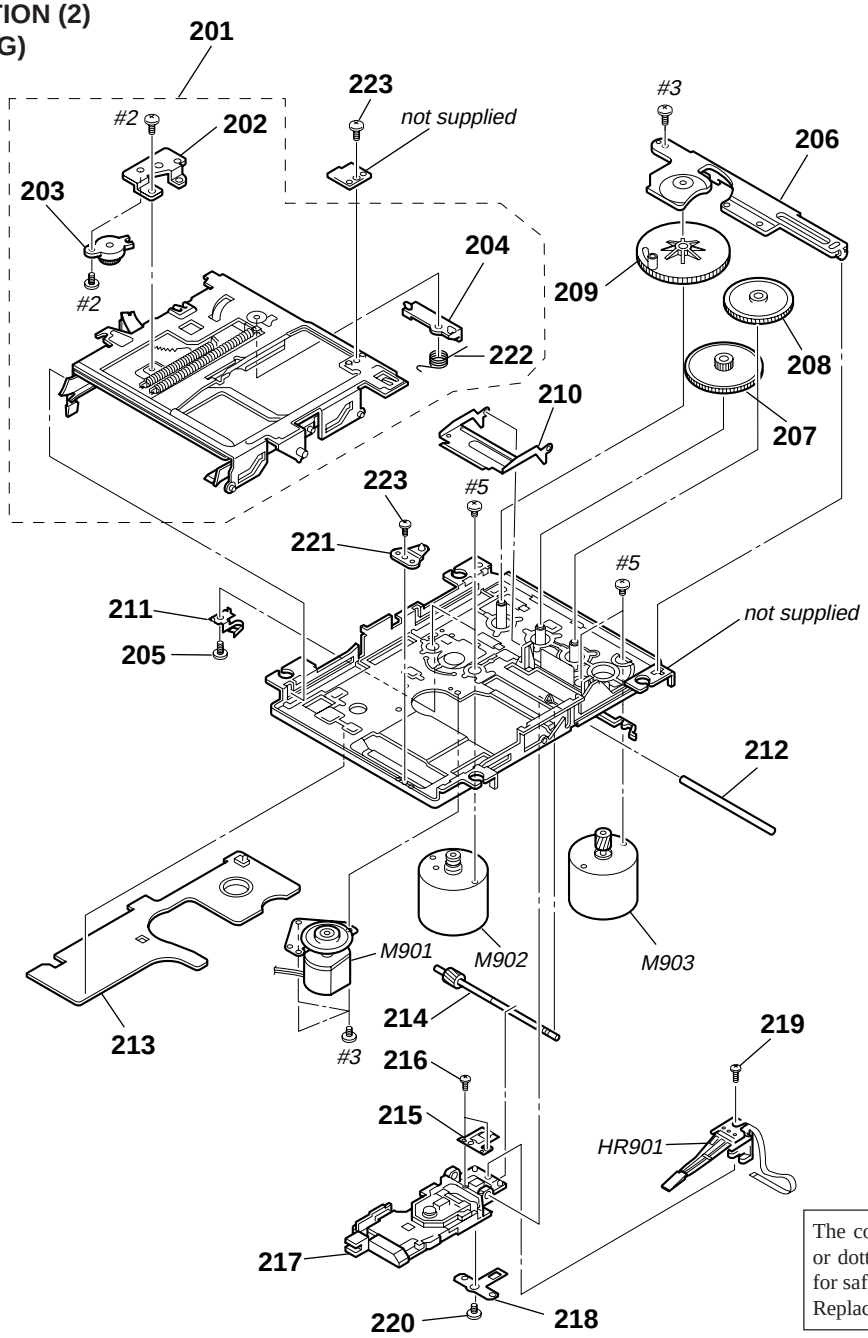
7-4. MD SECTION (1)
(MDM-3EG)



Ref. No.	Part No.	Description	Remark
* 151	A-3321-571-A	DG BOARD, COMPLETE (EXCEPT US)	
* 151	A-3321-550-A	DG BOARD, COMPLETE (US)	
* 152	A-3293-900-A	BD BOARD, COMPLETE	
153	1-660-966-11	OP RELAY FLEXIBLE BOARD	
154	3-028-625-01	SCREW (M1.7X2) (S TITE)	
155	X-4947-825-1	SHUTTER ASSY	
156	4-987-736-11	SHAFT (SHUTTER)	
157	4-628-167-01	SCREW, STEP	
158	4-987-327-11	INSULATOR	
159	1-783-542-11	WIRE, PARALLEL (FFC) (29 CORE)	

Ref. No.	Part No.	Description	Remark
160	1-783-540-11	WIRE, PARALLEL (FFC) (19 CORE)	
161	1-790-045-11	WIRE, PARALLEL (26 CORE)(60mm)	
162	1-777-517-11	WIRE, PARALLEL (15 CORE)	
163	4-987-910-01	SPRING (O/C), TENSION	
164	4-986-959-01	WASHER	
165	1-790-046-11	WIRE, PARALLEL (26 CORE)(172mm)	
* 166	1-671-517-11	FILTER BOARD	
167	3-029-176-01	SCREW (M1.7X4)	
168	7-627-553-27	SCREW,PRECISION +P 2X2.5	

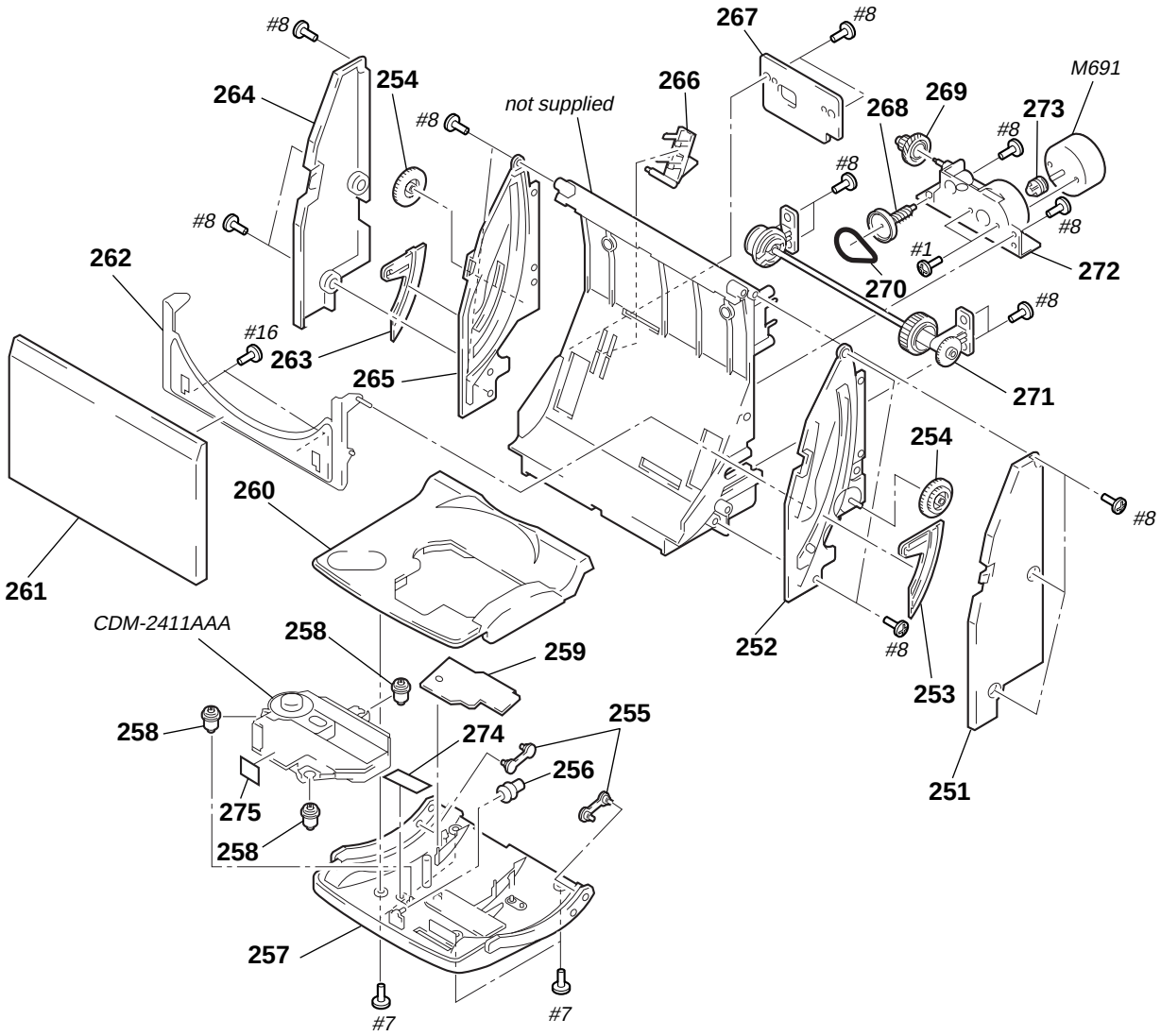
7-5. MD SECTION (2)
(MDM-3EG)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
201	A-4672-138-A	SLIDER COMPLETE ASSY	
* 202	4-983-439-01	BRACKET (DAMPER)	
203	3-953-235-01	DAMPER, OIL	
204	4-983-437-01	SLIDER (CAM)	
205	3-342-375-11	SCREW (M1.7X1.4), SPECIAL	
* 206	4-979-890-11	RETAINER (GEAR)	
207	4-979-898-01	GEAR (LB)	
208	4-979-899-01	GEAR (LC)	
209	4-979-897-01	GEAR (LA)	
210	4-979-885-01	LEVER (HEAD UP)	
211	4-979-906-11	SPRING (LEAD SCREW)	
* 212	4-984-556-01	SHAFT (MAIN SHAFT)	
* 213	1-661-774-11	SW BOARD	
214	A-3304-200-A	SCREW ASSY, LEAD	
215	4-963-914-02	RACK (INSERTER)	
216	3-366-890-11	SCREW (M1.4)	
⚠217	8-583-028-02	OPTICAL PICK-UP KMS-260A	
218	4-987-061-01	SPACER (RACK)	
219	4-988-560-01	SCREW (+P1.7X6)	
220	4-955-841-11	SCREW	
* 221	4-983-511-02	PIN (OUTSERT)	
222	4-979-895-11	SPRING (SHUTTER)	
223	3-028-625-01	SCREW (M1.7X2) (S TITE)	
HR901	1-500-396-11	HEAD, OVER WRITE	
M901	A-4672-135-A	MOTOR ASSY, SPINDLE	
M902	A-4672-133-A	MOTOR ASSY, SLED (INCLUDING GEAR)	
M903	A-4672-134-A	MOTOR ASSY, LOADING (INCLUDING GEAR)	

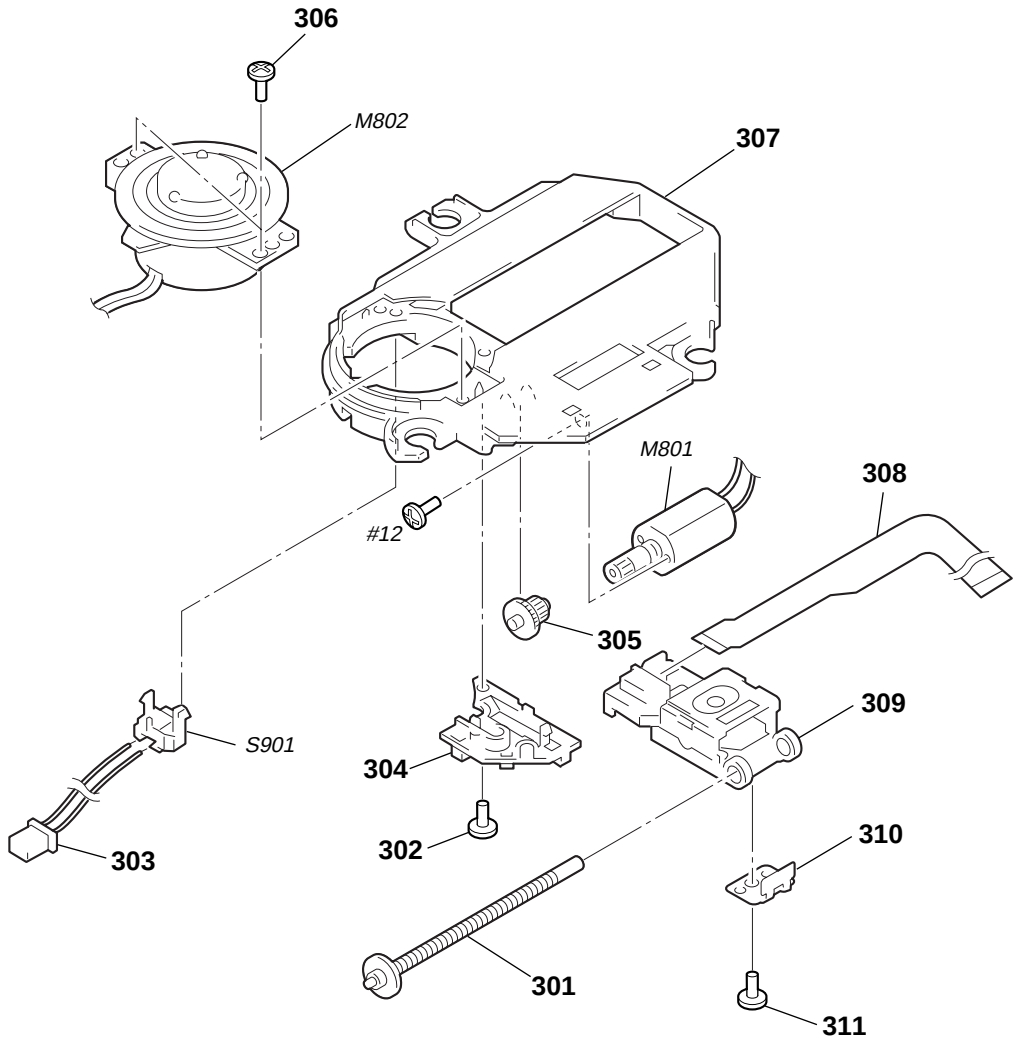
7-6. CD SECTION
(VLM-ZSM7-142)



Ref. No.	Part No.	Description	Remark
* 251	3-017-025-01	COVER (R), SIDE	
* 252	3-017-012-01	PLATE (R), SIDE	
* 253	3-017-014-01	SLIDER (R)	
254	3-017-027-01	GEAR (C)	
255	3-017-016-01	SHAFT, TRAY	
256	4-975-811-01	INSULATOR	
257	3-017-022-01	TRAY (BOTTOM), CD	
258	4-975-762-11	INSULATOR	
* 259	1-667-046-11	PICK-UP RELAY BOARD	
* 260	3-020-624-01	TRAY (TOP), CD	
261	3-020-492-01	LID, CD	
262	X-3374-204-1	WINDOW ASSY, CD	
* 263	3-017-013-01	SLIDER (L)	

Ref. No.	Part No.	Description	Remark
* 264	3-017-035-01	COVER (L), SIDE	
* 265	3-017-011-01	PLATE (L), SIDE	
266	3-017-017-01	LEVER, DETECTION	
* 267	1-667-045-11	LOADING BOARD	
268	3-017-031-01	GEAR (A)	
269	3-017-032-01	GEAR (B)	
270	3-017-030-01	BELT	
271	A-3311-798-A	DRIVE ASSY	
* 272	3-017-036-01	CHASSIS, GEAR	
273	2-627-174-01	PULLEY (M)	
* 274	3-378-138-01	CUSHION, SARANET	
* 275	3-022-456-01	SPACER (VLM)	
M691	1-698-999-11	MOTOR, DC (LOADING)	

7-7. OPTICAL PICK-UP SECTION (CDM-2411AAA)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
301	A-3303-970-A	SCREW ASSY, FEED	
302	3-318-203-11	SCREW (B1.7X6), TAPPING	
303	1-690-530-21	LEAD (WITH CONNECTOR)	
304	4-972-163-01	SPRING, SLED	
305	4-974-003-01	GEAR (B)	
306	3-719-401-11	SCREW (B1.7), TAPPING	
* 307	4-972-162-01	CHASSIS	
308	1-660-965-11	SLIDE FLEXIBLE BOARD	
⚠309	X-4946-311-1	OPTICAL PICK-UP (DAX-11A)	
310	4-972-165-01	RACK	
311	4-973-631-01	SCREW	
M801	A-3303-403-A	MOTOR ASSY, SLED (INCLUDING GEAR)	
M802	A-3320-300-A	MOTOR ASSY, TURNTABLE (SPINDLE)	
S901	1-571-099-21	SWITCH (1 KEY) (LIMIT)	

SECTION 8
ELECTRICAL PARTS LIST

AM ANT | AUDIO

NOTE :
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE :Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ , for example :
  uA.... : µ A.... , uPA.... : µ PA....
  uPB.... : µ PB.... , uPC.... : µ PC....
  uPD.... : µ PD....
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H
- Abbreviation
  EE : East European
  JE : Tourist

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-668-255-21	AM ANT BOARD (EXCEPT US)			
*	1-668-255-31	AM ANT BOARD (US)			
		**********			
		< CAPACITOR >			
C58	1-163-251-11	CERAMIC CHIP	100PF	5%	50V (EXCEPT US)
		< CONNECTOR >			
CN3	1-580-163-11	PIN, CONNECTOR (PC BOARD) 2P			
		< POST PIN >			
CP50	1-536-354-00	PIN, POST			
		< TERMINAL >			
TB1	1-536-833-31	TERMINAL BOARD (AM ANTENNA)(US)			
TB1	1-536-833-31	TERMINAL BOARD (MW/LW ANTENNA) (EXCEPT US)			
**********					
*	A-3321-552-A	AUDIO BOARD, COMPLETE (US)			
*	A-3321-573-A	AUDIO BOARD, COMPLETE (EXCEPT US)			
		**********			
		< CAPACITOR >			
C151	1-126-963-11	ELECT	4.7uF	20%	50V
C152	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C153	1-136-165-00	FILM	0.1uF	5%	50V
C154	1-136-165-00	FILM	0.1uF	5%	50V
C155	1-126-964-11	ELECT	10uF	20%	50V
C251	1-126-963-11	ELECT	4.7uF	20%	50V
C252	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C253	1-136-165-00	FILM	0.1uF	5%	50V
C254	1-136-165-00	FILM	0.1uF	5%	50V
C255	1-126-964-11	ELECT	10uF	20%	50V
C351	1-124-994-11	ELECT	100uF	20%	10V
C352	1-128-551-11	ELECT	22uF	20%	25V
C353	1-126-047-75	ELECT	4.7uF	20%	50V
C354	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C355	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C356	1-136-165-00	FILM	0.1uF	5%	50V
C357	1-117-943-11	ELECT	6800uF	20%	25V
C358	1-126-960-11	ELECT	1uF	20%	50V
C359	1-104-664-11	ELECT	47uF	20%	25V
C360	1-126-963-11	ELECT	4.7uF	20%	50V
C361	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C362	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C363	1-127-508-00	ELECT	2.2uF	20%	25V
C364	1-127-508-00	ELECT	2.2uF	20%	25V
		< CONNECTOR >			
* CN351	1-573-489-21	PIN, CONNECTOR (PC BOARD) 11P			
* CN352	1-564-507-11	PLUG, CONNECTOR 4P			
* CN353	1-564-519-11	PLUG, CONNECTOR 4P			
		< POST PIN >			
CP7	1-536-354-00	PIN, POST			
		< DIODE >			
D351	8-719-988-62	DIODE 1SS355			
D352	8-719-988-62	DIODE 1SS355			
D353	8-719-988-62	DIODE 1SS355			
		< IC >			
IC351	8-759-333-16	IC LA4705NA			
		< TRANSISTOR >			
Q151	8-729-920-31	TRANSISTOR DTC343TK			
Q251	8-729-920-31	TRANSISTOR DTC343TK			
Q351	8-729-031-43	TRANSISTOR IMD9A-T108			
Q352	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
		< RESISTOR >			
R151	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W
R152	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R153	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R154	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R155	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R251	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W
R252	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R253	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R254	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R255	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R351	1-216-077-00	METAL CHIP	15K	5%	1/10W

AUDIO BD

Ref. No.	Part No.	Description			Remark
R352	1-216-073-00	METAL CHIP	10K	5%	1/10W
R353	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R354	1-216-097-91	RES,CHIP	100K	5%	1/10W
R355	1-216-121-91	RES,CHIP	1M	5%	1/10W
R356	1-216-073-00	METAL CHIP	10K	5%	1/10W
R357	1-216-049-91	RES,CHIP	1K	5%	1/10W
**********					
*	A-3293-900-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C102	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C103	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C104	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C105	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C106	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C107	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C108	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C109	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C110	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C111	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C112	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C113	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C115	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C116	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C117	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C119	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C121	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C122	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C123	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C124	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C127	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C128	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C129	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C130	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C131	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C132	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C133	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C134	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C135	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C136	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C141	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C142	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C143	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C144	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C146	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C151	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C152	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C153	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C156	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C158	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C160	1-104-601-11	ELECT CHIP	10uF	20%	10V
C161	1-104-601-11	ELECT CHIP	10uF	20%	10V
C163	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C164	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C167	1-163-038-91	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description			Remark
C168	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C169	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C171	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C181	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C182	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C183	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C184	1-107-836-11	ELECT CHIP	22uF	20%	8V
C185	1-164-611-11	CERAMIC CHIP	0.001uF	10%	500V
C187	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C188	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C189	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C190	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C191	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C195	1-164-346-11	CERAMIC CHIP	1uF		16V
C196	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C197	1-163-038-91	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN101	1-766-508-11	CONNECTOR, FFC/FPC (ZIF) 22P			
CN102	1-778-461-11	CONNECTOR, FFC/FPC 29P			
CN103	1-778-460-11	CONNECTOR, FFC/FPC 19P			
CN104	1-766-898-21	HOUSING, CONNECTOR(PC BOARD)4P			
CN106	1-770-698-11	CONNECTOR, FFC/FPC 15P			
CN110	1-774-731-21	PIN, CONNECTOR (PC BOARD) 5P			
		< DIODE >			
D101	8-719-988-62	DIODE 1SS355			
D181	8-719-046-86	DIODE F1J6TP			
D183	8-719-046-86	DIODE F1J6TP			
		< IC >			
IC101	8-752-074-77	IC CXA2523R			
IC103	8-729-903-10	IC FMW1			
IC121	8-752-384-47	IC CXD2652AR			
IC122	8-759-234-20	IC TC7S08F			
IC123	8-759-242-70	IC TC7WU04F			
IC124	8-759-473-29	IC MN41V4400SJ-08-T1			
IC152	8-759-430-25	IC BH6511FS			
IC171	8-759-428-58	IC XL24C01AF-E2			
IC181	8-759-095-65	IC TC74ACT540FS			
IC192	8-759-426-95	IC L88MS33T-TL			
		< COIL >			
L101	1-414-235-11	FERRITE BEAD INDUCTOR			
L102	1-414-235-11	FERRITE BEAD INDUCTOR			
L103	1-414-235-11	FERRITE BEAD INDUCTOR			
L105	1-414-235-11	FERRITE BEAD INDUCTOR			
L106	1-414-235-11	FERRITE BEAD INDUCTOR			
L121	1-414-235-11	FERRITE BEAD INDUCTOR			
L122	1-414-235-11	INDUCTOR CHIP			
L151	1-412-622-51	INDUCTOR	10uH		
L152	1-412-622-51	INDUCTOR	10uH		
L153	1-412-039-51	INDUCTOR CHIP	100uH		
L154	1-412-039-51	INDUCTOR CHIP	100uH		
L161	1-414-235-11	FERRITE BEAD INDUCTOR			
L162	1-414-235-11	FERRITE BEAD INDUCTOR			

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q101	8-729-028-91	TRANSISTOR	DTA144EUA-T106		
Q102	8-729-026-53	TRANSISTOR	2SA1576A-T106-QR		
Q103	8-729-028-99	TRANSISTOR	DTC114YUA-T106		
Q104	8-729-028-99	TRANSISTOR	DTC114YUA-T106		
Q162	8-729-101-07	TRANSISTOR	2SB798-DL		
Q163	8-729-028-91	TRANSISTOR	DTA144EUA-T106		
Q180	8-729-028-96	TRANSISTOR	DTC114EUA-T106		
Q181	8-729-018-75	TRANSISTOR	2SJ278MY		
Q182	8-729-017-65	TRANSISTOR	2SK1764KY		
		< RESISTOR >			
R101	1-216-295-00	METAL CHIP	0	5%	1/10W
R103	1-216-049-91	RES,CHIP	1K	5%	1/10W
R104	1-216-073-00	METAL CHIP	10K	5%	1/10W
R105	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R106	1-216-133-00	METAL CHIP	3.3M	5%	1/10W
R107	1-216-113-00	METAL CHIP	470K	5%	1/10W
R109	1-216-295-00	METAL CHIP	0	5%	1/10W
R110	1-216-073-00	METAL CHIP	10K	5%	1/10W
R111	1-216-295-00	METAL CHIP	0	5%	1/10W
R112	1-216-089-91	RES,CHIP	47K	5%	1/10W
R113	1-216-049-91	RES,CHIP	1K	5%	1/10W
R115	1-216-049-91	RES,CHIP	1K	5%	1/10W
R117	1-216-113-00	METAL CHIP	470K	5%	1/10W
R120	1-216-025-91	RES,CHIP	100	5%	1/10W
R121	1-216-097-91	RES,CHIP	100K	5%	1/10W
R123	1-216-033-00	METAL CHIP	220	5%	1/10W
R124	1-216-025-91	RES,CHIP	100	5%	1/10W
R125	1-216-025-91	RES,CHIP	100	5%	1/10W
R127	1-216-025-91	RES,CHIP	100	5%	1/10W
R131	1-216-073-00	METAL CHIP	10K	5%	1/10W
R132	1-216-097-91	RES,CHIP	100K	5%	1/10W
R133	1-216-117-00	METAL CHIP	680K	5%	1/10W
R134	1-216-049-91	RES,CHIP	1K	5%	1/10W
R135	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R136	1-216-049-91	RES,CHIP	1K	5%	1/10W
R137	1-216-025-91	RES,CHIP	100	5%	1/10W
R140	1-216-029-00	METAL CHIP	150	5%	1/10W
R141	1-216-295-00	METAL CHIP	0	5%	1/10W
R142	1-216-073-00	METAL CHIP	10K	5%	1/10W
R143	1-216-073-00	METAL CHIP	10K	5%	1/10W
R144	1-216-025-91	RES,CHIP	100	5%	1/10W
R146	1-216-037-00	METAL CHIP	330	5%	1/10W
R147	1-216-025-91	RES,CHIP	100	5%	1/10W
R148	1-216-045-00	METAL CHIP	680	5%	1/10W
R150	1-216-295-00	METAL CHIP	0	5%	1/10W
R158	1-216-097-91	RES,CHIP	100K	5%	1/10W
R159	1-216-097-91	RES,CHIP	100K	5%	1/10W
R161	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R162	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R163	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R164	1-216-045-00	METAL CHIP	680	5%	1/10W
R165	1-216-097-91	RES,CHIP	100K	5%	1/10W
R166	1-220-149-11	REGISTER	2.2	10%	1/2W
R167	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R169	1-219-724-11	METAL CHIP	1	1%	1/4W

Ref. No.	Part No.	Description			Remark
R170	1-216-073-00	METAL CHIP	10K	5%	1/10W
R171	1-216-073-00	METAL CHIP	10K	5%	1/10W
R172	1-216-295-00	METAL CHIP	0	5%	1/10W
R173	1-216-121-91	RES,CHIP	1M	5%	1/10W
R175	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R176	1-216-295-00	METAL CHIP	0	5%	1/10W
R177	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R178	1-216-295-00	METAL CHIP	0	5%	1/10W
R179	1-216-089-91	RES,CHIP	47K	5%	1/10W
R180	1-216-073-00	METAL CHIP	10K	5%	1/10W
R181	1-216-073-00	METAL CHIP	10K	5%	1/10W
R182	1-216-089-91	RES,CHIP	47K	5%	1/10W
R183	1-216-089-91	RES,CHIP	47K	5%	1/10W
R184	1-216-073-00	METAL CHIP	10K	5%	1/10W
R185	1-216-073-00	METAL CHIP	10K	5%	1/10W
R186	1-216-296-00	METAL CHIP	0	5%	1/8W
R187	1-216-296-00	METAL CHIP	0	5%	1/8W
R188	1-216-073-00	METAL CHIP	10K	5%	1/10W
R189	1-216-073-00	METAL CHIP	10K	5%	1/10W
R190	1-216-073-00	METAL CHIP	10K	5%	1/10W
R195	1-216-295-00	METAL CHIP	0	5%	1/10W
R196	1-216-295-00	METAL CHIP	0	5%	1/10W
R198	1-216-295-00	METAL CHIP	0	5%	1/10W
R199	1-216-295-00	METAL CHIP	0	5%	1/10W
R200	1-216-295-00	METAL CHIP	0	5%	1/10W
R201	1-216-295-00	METAL CHIP	0	5%	1/10W
R202	1-216-295-00	METAL CHIP	0	5%	1/10W
R502	1-216-295-00	METAL CHIP	0	5%	1/10W
R504	1-216-295-00	METAL CHIP	0	5%	1/10W
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*	A-3321-550-A	DG BOARD, COMPLETE (US)			
*	A-3321-571-A	DG BOARD, COMPLETE (EXCEPT US)			
		**********			
		< CAPACITOR >			
C501	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C502	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C503	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C504	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C505	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C506	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C507	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C508	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C510	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C511	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C512	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C513	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C514	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C515	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C516	1-126-607-11	ELECT CHIP	47uF	20%	4V
C517	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C518	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C519	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C521	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C522	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C525	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C526	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C527	1-126-205-11	ELECT CHIP	47uF	20%	6.3V

DG

Ref. No.	Part No.	Description			Remark
C528	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C529	1-124-779-00	ELECT CHIP	10uF	20%	16V
C532	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C533	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C534	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C535	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C536	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C537	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C538	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C542	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C545	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C547	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C558	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C561	1-126-204-11	ELECT CHIP	47uF	20%	16V
C562	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C563	1-126-207-11	ELECT CHIP	33uF	20%	4V
C564	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C565	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C566	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C567	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C568	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C569	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C572	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C574	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V
C576	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C577	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C578	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C579	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C580	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C581	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C582	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C583	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C585	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C586	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C587	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C588	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C589	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C590	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C591	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C592	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V
C593	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C594	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
		< CONNECTOR >			
CN501	1-784-836-21	CONNECTOR (SMD) 29P			
CN502	1-778-691-11	CONNECTOR, FFC/FPC 19P			
* CN503	1-695-320-21	PIN, CONNECTOR (1.5MM)(SMD) 2P			
CN504	1-750-524-31	CONNECTOR, FFC/FPC (ZIF) 26P			
		< DIODE >			
D551	8-719-914-43	DIODE DAN202K			
D552	8-719-988-61	DIODE 1SS355TE-17			
		< FERRITE BEAD >			
FB502	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB503	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB521	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB522	1-414-385-11	INDUCTOR, FERRITE BEAD			

Ref. No.	Part No.	Description			Remark
FB523	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB524	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB525	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB527	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB528	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB530	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB531	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB532	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB533	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB534	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB535	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB536	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB539	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB541	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB542	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB543	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB544	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB545	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB546	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB547	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB548	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB549	1-414-235-21	INDUCTOR, FERRITE BEAD			
FB550	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB551	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB552	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB553	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB554	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB555	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB558	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB560	1-414-811-21	INDUCTOR, FERRITE BEAD			
FB561	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB562	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB563	1-469-185-11	INDUCTOR, FERRITE BEAD			
FB564	1-469-185-11	INDUCTOR, FERRITE BEAD			
FB566	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB567	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB568	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB569	1-414-385-11	INDUCTOR, FERRITE BEAD			
		< IC >			
IC501	8-759-444-93	IC RH5RL33AA-T1			
IC502	8-759-494-80	IC RU8X12MF-0021			
IC503	8-759-040-83	IC BA6287F			
IC504	8-759-444-93	IC RH5RL33AA-T1			
IC505	8-759-566-19	IC AK4518VF-E2			
IC506	8-759-096-87	IC TC7WU04FU(TE12R)			
IC507	8-759-243-19	IC TC7SU04F			
		< JUMPER RESISTOR >			
JC502	1-216-295-00	METAL CHIP	0	5%	1/10W
JC503	1-216-295-00	METAL CHIP	0	5%	1/10W
JC504	1-216-295-00	METAL CHIP	0	5%	1/10W
JC505	1-216-295-00	METAL CHIP	0	5%	1/10W
JC506	1-216-296-00	METAL CHIP	0	5%	1/8W
JC507	1-216-296-00	METAL CHIP	0	5%	1/8W
JC508	1-216-296-00	METAL CHIP	0	5%	1/8W
JC509	1-216-296-00	METAL CHIP	0	5%	1/8W

Ref. No.	Part No.	Description			Remark
JC513	1-216-296-00	METAL CHIP	0	5%	1/8W
JC514	1-216-296-00	METAL CHIP	0	5%	1/8W
JC515	1-216-296-00	METAL CHIP	0	5%	1/8W
JC516	1-216-295-00	METAL CHIP	0	5%	1/10W
JC517	1-216-296-00	METAL CHIP	0	5%	1/8W
JC520	1-216-295-00	METAL CHIP	0	5%	1/10W
JC521	1-216-296-00	METAL CHIP	0	5%	1/8W
JC525	1-216-296-00	METAL CHIP	0	5%	1/8W
JC537	1-216-296-00	METAL CHIP	0	5%	1/8W
JC538	1-216-296-00	METAL CHIP	0	5%	1/8W
JC539	1-216-295-00	METAL CHIP	0	5%	1/10W
JC542	1-216-864-11	METAL CHIP	0	5%	1/16W
JC543	1-216-864-11	METAL CHIP	0	5%	1/16W
JC551	1-216-296-00	METAL CHIP	0	5%	1/8W
JC565	1-216-295-00	METAL CHIP	0	5%	1/10W
		< COIL >			
L501	1-414-398-11	INDUCTOR	10uH		
L502	1-414-398-11	INDUCTOR	10uH		
L503	1-414-398-11	INDUCTOR	10uH		
L504	1-414-398-11	INDUCTOR	10uH		
L505	1-414-398-11	INDUCTOR	10uH		
L507	1-414-398-11	INDUCTOR	10uH		
L508	1-412-032-11	INDUCTOR CHIP	100uH		
L509	1-414-404-11	INDUCTOR	100uH		
L510	1-414-398-11	INDUCTOR	10uH		
L511	1-416-107-21	INDUCTOR	0uH		
L512	1-412-006-31	INDUCTOR CHIP	10uH		
L513	1-414-398-11	INDUCTOR	10uH		
L515	1-414-404-21	INDUCTOR CHIP	100uH		
		< TRANSISTOR >			
Q501	8-729-031-43	TRANSISTOR	IMD9A-T108		
Q502	8-729-402-84	TRANSISTOR	XN4601		
Q503	8-729-027-46	TRANSISTOR	DTC114YKA-T146		
Q504	8-729-101-07	TRANSISTOR	2SB798-DL		
Q507	8-729-402-84	TRANSISTOR	XN4601		
Q509	8-729-027-46	TRANSISTOR	DTC114YKA-T146		
Q510	8-729-027-56	TRANSISTOR	DTC143TKA-T146		
Q511	8-729-019-72	TRANSISTOR	2SB1260		
Q520	8-729-027-46	TRANSISTOR	DTC114YKA-T146		
Q521	8-729-027-46	TRANSISTOR	DTC114YKA-T146		
Q522	8-729-027-46	TRANSISTOR	DTC114YKA-T146		
Q551	8-729-046-16	TRANSISTOR	UMG5N-TR		
Q552	8-729-046-15	TRANSISTOR	UMA1N-TR		
Q553	8-729-046-16	TRANSISTOR	UMG5N-TR		
Q554	8-729-046-15	TRANSISTOR	UMA1N-TR		
		< RESISTOR >			
R501	1-216-833-11	METAL CHIP	10K	5%	1/16W
R502	1-216-833-11	METAL CHIP	10K	5%	1/16W
R503	1-216-833-11	METAL CHIP	10K	5%	1/16W
R504	1-216-833-11	METAL CHIP	10K	5%	1/16W
R505	1-216-845-11	METAL CHIP	100K	5%	1/16W
R506	1-216-845-11	METAL CHIP	100K	5%	1/16W
R507	1-216-845-11	METAL CHIP	100K	5%	1/16W
R508	1-216-845-11	METAL CHIP	100K	5%	1/16W
R509	1-216-857-11	METAL CHIP	1M	5%	1/16W
R510	1-216-833-11	METAL CHIP	10K	5%	1/16W
R511	1-216-845-11	METAL CHIP	100K	5%	1/16W
R512	1-216-025-91	RES,CHIP	100	5%	1/10W
R513	1-216-025-91	RES,CHIP	100	5%	1/10W
R514	1-216-833-11	METAL CHIP	10K	5%	1/16W
R515	1-216-097-91	RES,CHIP	100K	5%	1/10W
R516	1-216-851-11	METAL CHIP	330K	5%	1/16W
R517	1-216-833-11	METAL CHIP	10K	5%	1/16W
R518	1-216-833-11	METAL CHIP	10K	5%	1/16W
R519	1-216-833-11	METAL CHIP	10K	5%	1/16W
R520	1-216-849-11	METAL CHIP	220K	5%	1/16W
R521	1-216-833-11	METAL CHIP	10K	5%	1/16W
R522	1-216-833-11	METAL CHIP	10K	5%	1/16W
R523	1-216-833-11	METAL CHIP	10K	5%	1/16W
R524	1-216-833-11	METAL CHIP	10K	5%	1/16W
R525	1-216-833-11	METAL CHIP	10K	5%	1/16W
R526	1-216-833-11	METAL CHIP	10K	5%	1/16W
R527	1-216-833-11	METAL CHIP	10K	5%	1/16W
R529	1-216-807-11	METAL CHIP	68	5%	1/16W
R531	1-216-833-11	METAL CHIP	10K	5%	1/16W
R532	1-216-817-11	METAL CHIP	470	5%	1/16W
R533	1-216-821-11	METAL CHIP	1K	5%	1/16W
R534	1-216-821-11	METAL CHIP	1K	5%	1/16W
R536	1-216-845-11	METAL CHIP	100K	5%	1/16W
R537	1-216-845-11	METAL CHIP	100K	5%	1/16W
R541	1-216-833-11	METAL CHIP	10K	5%	1/16W
R543	1-216-841-11	METAL CHIP	47K	5%	1/16W
R544	1-216-819-11	METAL CHIP	680	5%	1/16W
R548	1-216-853-11	METAL CHIP	470K	5%	1/16W
R551	1-216-847-11	METAL CHIP	150K	5%	1/16W
R552	1-216-843-11	METAL CHIP	68K	5%	1/16W
R553	1-216-833-11	METAL CHIP	10K	5%	1/16W
R554	1-216-222-00	RES,CHIP	10K	5%	1/8W
R555	1-216-089-91	RES,CHIP	47K	5%	1/10W
R556	1-216-841-11	METAL CHIP	47K	5%	1/16W
R557	1-216-821-11	METAL CHIP	1K	5%	1/16W
R558	1-216-214-00	RES,CHIP	4.7K	5%	1/8W
R559	1-216-821-11	METAL CHIP	1K	5%	1/16W
R560	1-216-821-11	METAL CHIP	1K	5%	1/16W
R561	1-216-821-11	METAL CHIP	1K	5%	1/16W
R562	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R565	1-216-817-11	METAL CHIP	470	5%	1/16W
R567	1-216-841-11	METAL CHIP	47K	5%	1/16W
R571	1-216-097-91	RES,CHIP	100K	5%	1/10W
R572	1-216-073-00	METAL CHIP	10K	5%	1/10W
R573	1-216-073-00	METAL CHIP	10K	5%	1/10W
R580	1-216-821-11	METAL CHIP	1K	5%	1/16W
R581	1-216-821-11	METAL CHIP	1K	5%	1/16W
R582	1-216-833-11	METAL CHIP	10K	5%	1/16W
R583	1-216-833-11	METAL CHIP	10K	5%	1/16W
R584	1-216-857-11	METAL CHIP	1M	5%	1/16W
R585	1-216-819-11	METAL CHIP	680	5%	1/16W
R586	1-216-833-11	METAL CHIP	10K	5%	1/16W
R587	1-216-833-11	METAL CHIP	10K	5%	1/16W
R588	1-216-821-11	METAL CHIP	1K	5%	1/16W
R589	1-216-857-11	METAL CHIP	1M	5%	1/16W

DG FILTER FL

Ref. No.	Part No.	Description			Remark
R590	1-216-841-11	METAL CHIP	47K	5%	1/16W
		< VIBRATOR >			
X501	1-760-174-11	VIBRATOR, CERAMIC (12MHz)			
X502	1-760-872-11	VIBRATOR, CRYSTAL (32.768KHz)			
X503	1-767-286-11	VIBRATOR, CRYSTAL (22.5792MHz)			
**********					
*	1-671-517-11	FILTER BOARD			
		**********			
		< CONNECTOR >			
CN550	1-750-524-31	CONNECTOR, FFC/FPC (ZIF) 26P			
CN551	1-750-524-31	CONNECTOR, FFC/FPC (ZIF) 26P			
		< FERRITE BEAD >			
FB590	1-469-185-11	FERRITE	0UH		
FB591	1-469-185-11	FERRITE	0UH		
		< FILTER >			
FL501	1-239-895-11	FILTER, EMI (SMD)			
FL502	1-239-895-11	FILTER, EMI (SMD)			
FL503	1-239-895-11	FILTER, EMI (SMD)			
FL504	1-239-895-11	FILTER, EMI (SMD)			
FL505	1-239-895-11	FILTER, EMI (SMD)			
FL506	1-239-895-11	FILTER, EMI (SMD)			
FL507	1-239-895-11	FILTER, EMI (SMD)			
FL508	1-239-895-11	FILTER, EMI (SMD)			
FL509	1-239-895-11	FILTER, EMI (SMD)			
FL510	1-239-895-11	FILTER, EMI (SMD)			
FL511	1-239-895-11	FILTER, EMI (SMD)			
FL512	1-239-895-11	FILTER, EMI (SMD)			
FL513	1-239-895-11	FILTER, EMI (SMD)			
FL514	1-239-895-11	FILTER, EMI (SMD)			
FL515	1-239-895-11	FILTER, EMI (SMD)			
FL516	1-239-895-11	FILTER, EMI (SMD)			
FL517	1-239-895-11	FILTER, EMI (SMD)			
FL518	1-239-895-11	FILTER, EMI (SMD)			
FL519	1-239-895-11	FILTER, EMI (SMD)			
FL520	1-239-895-11	FILTER, EMI (SMD)			
FL521	1-239-895-11	FILTER, EMI (SMD)			
FL522	1-239-895-11	FILTER, EMI (SMD)			
		< JUMPER RESISTOR >			
JC590	1-216-295-00	METAL CHIP	0	5%	1/10W
**********					
*	A-3323-029-A	FL BOARD, COMPLETE (US)			
*	A-3323-036-A	FL BOARD, COMPLETE (EXCEPT US)			
		**********			
	3-019-671-01	HOLDER (FL)			
		< CAPACITOR >			
C403	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C404	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C405	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C406	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C407	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C408	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C409	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C410	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C411	1-104-664-11	ELECT	47uF	20%	16V
C412	1-163-059-91	CERAMIC CHIP	0.01uF	10%	50V
C413	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C414	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C416	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C417	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C418	1-126-964-11	ELECT	10uF	20%	50V
C419	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C420	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C421	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C422	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C423	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C424	1-164-337-11	CERAMIC CHIP	2.2uF		16V
		< CONNECTOR >			
* CN404	1-569-306-11	SOCKET, CONNECTOR (L TYRE) 15P			
		< FLUORESCENT INDICATOR TUBE >			
FL401	1-517-744-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC401	8-752-891-96	IC CXP82832-005Q			
		< JUMPER RESISTOR >			
JC401	1-216-296-00	METAL CHIP	0	5%	1/8W
JC402	1-216-296-00	METAL CHIP	0	5%	1/8W
JC403	1-216-296-00	METAL CHIP	0	5%	1/8W
JC404	1-216-296-00	METAL CHIP	0	5%	1/8W
JC405	1-216-296-00	METAL CHIP	0	5%	1/8W
JC406	1-216-296-00	METAL CHIP	0	5%	1/8W
		< TRANSISTOR >			
Q404	8-729-402-19	TRANSISTOR	XN6501		
Q405	8-729-028-21	TRANSISTOR	XN4502		
Q406	8-729-024-33	TRANSISTOR	XN1509-TX		
		< RESISTOR >			
R401	1-216-073-00	METAL CHIP	10K	5%	1/10W
R439	1-216-073-00	METAL CHIP	10K	5%	1/10W
R440	1-216-049-91	RES,CHIP	1K	5%	1/10W
R441	1-216-073-00	METAL CHIP	10K	5%	1/10W
R442	1-216-049-91	RES,CHIP	1K	5%	1/10W
R443	1-216-049-91	RES,CHIP	1K	5%	1/10W
R444	1-216-073-00	METAL CHIP	10K	5%	1/10W
R445	1-216-049-91	RES,CHIP	1K	5%	1/10W
R446	1-216-073-00	METAL CHIP	10K	5%	1/10W
R447	1-216-049-91	RES,CHIP	1K	5%	1/10W
R448	1-216-049-91	RES,CHIP	1K	5%	1/10W
R449	1-216-049-91	RES,CHIP	1K	5%	1/10W
R450	1-216-049-91	RES,CHIP	1K	5%	1/10W
R451	1-216-049-91	RES,CHIP	1K	5%	1/10W
R452	1-216-049-91	RES,CHIP	1K	5%	1/10W
R453	1-216-049-91	RES,CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R454	1-216-049-91	RES,CHIP	1K	5%	1/10W
R455	1-216-049-91	RES,CHIP	1K	5%	1/10W
R456	1-216-073-00	METAL CHIP	10K	5%	1/10W
R457	1-216-049-91	RES,CHIP	1K	5%	1/10W
R458	1-216-009-00	METAL CHIP	22	5%	1/10W
R463	1-216-089-91	RES,CHIP	47K	5%	1/10W
R464	1-216-089-91	RES,CHIP	47K	5%	1/10W
R465	1-216-089-91	RES,CHIP	47K	5%	1/10W
R466	1-216-089-91	RES,CHIP	47K	5%	1/10W
R467	1-216-089-91	RES,CHIP	47K	5%	1/10W
R468	1-216-089-91	RES,CHIP	47K	5%	1/10W
R469	1-216-089-91	RES,CHIP	47K	5%	1/10W
R470	1-216-089-91	RES,CHIP	47K	5%	1/10W
R471	1-216-089-91	RES,CHIP	47K	5%	1/10W
R472	1-216-089-91	RES,CHIP	47K	5%	1/10W
R473	1-216-089-91	RES,CHIP	47K	5%	1/10W
R474	1-216-089-91	RES,CHIP	47K	5%	1/10W
R475	1-216-089-91	RES,CHIP	47K	5%	1/10W
R476	1-216-089-91	RES,CHIP	47K	5%	1/10W
R477	1-216-089-91	RES,CHIP	47K	5%	1/10W
R478	1-216-089-91	RES,CHIP	47K	5%	1/10W
R479	1-216-089-91	RES,CHIP	47K	5%	1/10W
R480	1-216-089-91	RES,CHIP	47K	5%	1/10W
R481	1-216-089-91	RES,CHIP	47K	5%	1/10W
R482	1-216-089-91	RES,CHIP	47K	5%	1/10W
R483	1-216-089-91	RES,CHIP	47K	5%	1/10W
R484	1-216-089-91	RES,CHIP	47K	5%	1/10W
R485	1-216-089-91	RES,CHIP	47K	5%	1/10W
R486	1-216-089-91	RES,CHIP	47K	5%	1/10W
R487	1-216-089-91	RES,CHIP	47K	5%	1/10W
R488	1-216-089-91	RES,CHIP	47K	5%	1/10W
R489	1-216-089-91	RES,CHIP	47K	5%	1/10W
R490	1-216-089-91	RES,CHIP	47K	5%	1/10W
R491	1-216-089-91	RES,CHIP	47K	5%	1/10W
R492	1-216-089-91	RES,CHIP	47K	5%	1/10W
R493	1-216-089-91	RES,CHIP	47K	5%	1/10W
R494	1-216-089-91	RES,CHIP	47K	5%	1/10W
R495	1-216-089-91	RES,CHIP	47K	5%	1/10W
R496	1-216-089-91	RES,CHIP	47K	5%	1/10W
R497	1-216-089-91	RES,CHIP	47K	5%	1/10W
R498	1-216-089-91	RES,CHIP	47K	5%	1/10W
R499	1-216-073-00	METAL CHIP	10K	5%	1/10W
R500	1-216-073-00	METAL CHIP	10K	5%	1/10W
R501	1-216-073-00	METAL CHIP	10K	5%	1/10W
R502	1-216-073-00	METAL CHIP	10K	5%	1/10W
R503	1-216-073-00	METAL CHIP	10K	5%	1/10W
R504	1-216-073-00	METAL CHIP	10K	5%	1/10W
R505	1-216-073-00	METAL CHIP	10K	5%	1/10W
R506	1-216-073-00	METAL CHIP	10K	5%	1/10W
R507	1-216-073-00	METAL CHIP	10K	5%	1/10W
R508	1-216-073-00	METAL CHIP	10K	5%	1/10W
R509	1-216-073-00	METAL CHIP	10K	5%	1/10W
R510	1-216-073-00	METAL CHIP	10K	5%	1/10W
		< VIBRATOR >			
X811	1-767-838-11	VIBRATOR, CERAMIC (6MHz)			

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Ref. No.	Part No.	Description			Remark
*	1-668-254-21	FM ANT BOARD (EXCEPT US)			
*	1-668-254-31	FM ANT BOARD (US)			
		**********			
		< CONNECTOR >			
* CN41	1-580-154-11	PIN, CONNECTOR (PC BOARD) 2P			(EXCEPT US)
* CN41	1-580-163-11	PIN, CONNECTOR (PC BOARD) 2P (US)			
		< SWITCH >			
S1	1-771-535-11	SWITCH, SLIDE (FM ANTENNA SELECTOR)			(EXCEPT US)
		< TERMINAL >			
TB40	1-536-833-31	TERMINAL BOARD (FM EXT ANTENNA) (US)			

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*	A-3321-539-A	FRONT KEY BOARD, COMPLETE (US)			
*	A-3321-557-A	FRONT KEY BOARD, COMPLETE (EXCEPT US)			
		**********			
	3-020-475-01	HOLDER (LED)			
		< CAPACITOR >			
C401	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C402	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V
		< CONNECTOR >			
CN401	1-580-168-11	PIN, CONNECTOR (PC BOARD) 7P			
		< DIODE >			
D401	8-719-071-33	LED MBG3362X-TP-J434K (RADIO)			
D402	8-719-071-33	LED MBG3362X-TP-J434K (RADIO)			
D403	8-719-071-33	LED MBG3362X-TP-J434K (CD)			
D404	8-719-071-33	LED MBG3362X-TP-J434K (CD)			
D405	8-719-071-33	LED MBG3362X-TP-J434K (MD)			
D406	8-719-071-33	LED MBG3362X-TP-J434K (MD)			
		< IC >			
IC402	8-749-011-03	IC GP1U26X			
		< TRANSISTOR >			
Q401	8-729-027-42	TRANSISTOR DTC113ZKA-T146			
Q402	8-729-027-42	TRANSISTOR DTC113ZKA-T146			
Q403	8-729-027-42	TRANSISTOR DTC113ZKA-T146			
		< RESISTOR >			
R404	1-208-794-11	RES,CHIP	3.3K	0.50%	1/10W
R405	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R406	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R407	1-208-782-11	RES,CHIP	1K	0.50%	1/10W
R408	1-208-778-11	RES,CHIP	680	0.50%	1/10W
R409	1-208-778-11	RES,CHIP	680	0.50%	1/10W
R410	1-208-774-11	RES,CHIP	470	0.50%	1/10W
R411	1-208-774-11	RES,CHIP	470	0.50%	1/10W
R412	1-216-029-00	METAL CHIP	150	5%	1/10W
R413	1-216-029-00	METAL CHIP	150	5%	1/10W

FRONT KEY | HP | LEFT KEY | LINE IN

Ref. No.	Part No.	Description			Remark
R414	1-216-029-00	METAL CHIP	150	5%	1/10W
R458	1-216-029-00	METAL CHIP	150	5%	1/10W
R459	1-216-029-00	METAL CHIP	150	5%	1/10W
R460	1-216-029-00	METAL CHIP	150	5%	1/10W
R461	1-216-049-91	RES,CHIP	1K	5%	1/10W
		< SWITCH >			
S801	1-692-014-11	SWITCH, KEY BOARD (MD ■)			
S802	1-692-014-11	SWITCH, KEY BOARD (CD ■)			
S803	1-692-014-11	SWITCH, KEY BOARD (MD ▶II)			
S804	1-692-014-11	SWITCH, KEY BOARD (CD ▶II)			
S805	1-692-014-11	SWITCH, KEY BOARD (RADIO, BAND)			
S806	1-692-014-11	SWITCH, KEY BOARD (MD EJECT)			
S807	1-692-014-11	SWITCH, KEY BOARD (CD OPEN/CLOSE)			
S808	1-692-014-11	SWITCH, KEY BOARD (LINE)			
S809	1-692-014-11	SWITCH, KEY BOARD (REC)			
**********					
*	1-668-250-21	HP BOARD (EXCEPT US)			
*	1-668-250-31	HP BOARD (US)			
		*********			
		< CAPACITOR >			
C370	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	(EXCEPT US)
C371	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	(EXCEPT US)
C372	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	(US)
C373	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	(US)
C374	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	(US)
C375	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	(US)
		< CONNECTOR >			
* CN371	1-580-166-21	PIN, CONNECTOR (PC BOARD) 5P			
		< JACK >			
J371	1-566-891-21	JACK (•∩)			
J372	1-566-891-21	JACK (• •∩)			
		< INDUCTOR >			
L171	1-410-503-11	INDUCTOR, MICRO	3.3uH		
L172	1-410-503-11	INDUCTOR, MICRO	3.3uH		
L271	1-410-503-11	INDUCTOR, MICRO	3.3uH		
L272	1-410-503-11	INDUCTOR, MICRO	3.3uH		
L371	1-410-503-11	INDUCTOR, MICRO	3.3uH		
		< TRANSISTOR >			
Q172	8-729-920-31	TRANSISTOR DTC343TK			
Q173	8-729-920-31	TRANSISTOR DTC343TK			
Q272	8-729-920-31	TRANSISTOR DTC343TK			
Q273	8-729-920-31	TRANSISTOR DTC343TK			
		< RESISTOR >			
R174	1-216-013-00	METAL CHIP	33	5%	1/10W
R175	1-216-013-00	METAL CHIP	33	5%	1/10W
R274	1-216-013-00	METAL CHIP	33	5%	1/10W

Ref. No.	Part No.	Description			Remark
R275	1-216-013-00	METAL CHIP	33	5%	1/10W
**********					
*	1-668-243-21	LEFT KEY BOARD (EXCEPT US)			
*	1-668-243-31	LEFT KEY BOARD (US)			
		**********			
		< CONNECTOR >			
CN406	1-695-105-11	PIN, CONNECTOR (PC BOARD) 3P			
		< RESISTOR >			
R424	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R425	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R426	1-208-782-11	RES,CHIP	1K	0.50%	1/10W
R427	1-208-778-11	RES,CHIP	680	0.50%	1/10W
R428	1-208-778-11	RES,CHIP	680	0.50%	1/10W
R429	1-208-774-11	RES,CHIP	470	0.50%	1/10W
R430	1-208-774-11	RES,CHIP	470	0.50%	1/10W
		< SWITCH >			
S813	1-692-014-11	SWITCH, KEY BOARD (POWER)			
S814	1-692-014-11	SWITCH, KEY BOARD (DISC ALL)			
S815	1-692-014-11	SWITCH, KEY BOARD (TO TOP)			
S816	1-692-014-11	SWITCH, KEY BOARD (TO END)			
S817	1-692-014-11	SWITCH, KEY BOARD (SLEEP)			
S818	1-692-014-11	SWITCH, KEY BOARD (STAND BY)			
S819	1-692-014-11	SWITCH, KEY BOARD (TIMER)			
S820	1-692-014-11	SWITCH, KEY BOARD (CLOCK)			
**********					
*	1-668-249-21	LINE IN BOARD (EXCEPT US)			
*	1-668-249-31	LINE IN BOARD (US)			
		**********			
		< CAPACITOR >			
C392	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
* CN331	1-695-112-11	PIN, CONNECTOR (PC BOARD) 10P			
		< FERRITE BEAD >			
FB190	1-500-445-21	INDUCTOR, FERRITE BEAD (US)			
FB290	1-500-445-21	INDUCTOR, FERRITE BEAD (US)			
FB390	1-500-445-21	INDUCTOR, FERRITE BEAD (US)			
		< JACK >			
J391	1-566-891-21	JACK (LINE IN)			
		< INDUCTOR >			
L190	1-410-503-61	INDUCTOR, MICRO	3.3uH		(EXCEPT US)
L290	1-410-503-61	INDUCTOR, MICRO	3.3uH		(EXCEPT US)
L390	1-410-503-61	INDUCTOR, MICRO	3.3uH		(EXCEPT US)
		< TRANSISTOR >			
Q192	8-729-920-31	TRANSISTOR DTC343TK			

Ref. No.	Part No.	Description			Remark
Q292	8-729-920-31	TRANSISTOR DTC343TK			
Q392	8-729-027-45	TRANSISTOR DTC114WKA-T146			
Q399	8-729-027-26	TRANSISTOR DTA114YKA-T146			
		< RESISTOR >			
R197	1-216-089-91	RES,CHIP	47K	5%	1/10W
R198	1-216-089-91	RES,CHIP	47K	5%	1/10W
R297	1-216-089-91	RES,CHIP	47K	5%	1/10W
R298	1-216-089-91	RES,CHIP	47K	5%	1/10W
R391	1-216-025-91	RES,CHIP	100	5%	1/10W
		< SWITCH >			
S891	1-554-088-00	SWITCH, KEY BOARD (RESET)			
**********					
*	1-667-045-11	LOADING BOARD			
		**********			
		< CAPACITOR >			
C790	1-104-664-11	ELECT	47uF	20%	25V
		< CONNECTOR >			
* CN790	1-580-166-11	PIN, CONNECTOR (PC BOARD) 5P			
		< DIODE >			
D790	8-719-970-02	DIODE 1SR139-400			
		< IC >			
IC790	8-759-501-73	IC BA6418N			
		< COIL >			
L790	1-412-852-11	INDUCTOR	47uH		
		< RESISTOR >			
R790	1-249-425-11	CARBON	4.7K	5%	1/4W
		< SWITCH >			
S790	1-762-951-11	SWITCH, PUSH (CLOSE)			
S791	1-762-951-11	SWITCH, PUSH (OPEN)			
**********					
*	A-3321-544-A	MAIN BOARD, COMPLETE (US)			
*	A-3321-565-A	MAIN BOARD, COMPLETE (EXCEPT US)			
		**********			
	7-685-646-79	SCREW +BVTP	3X8 TYPE2 N-S		
		< CAPACITOR >			
C101	1-126-959-11	ELECT	0.47uF	20%	50V
C102	1-126-963-11	ELECT	4.7uF	20%	50V
C103	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C106	1-126-963-11	ELECT	4.7uF	20%	50V
C110	1-126-963-11	ELECT	4.7uF	20%	50V
C111	1-126-963-11	ELECT	4.7uF	20%	50V
C116	1-126-963-11	ELECT	4.7uF	20%	50V
C117	1-130-480-00	MYLAR	0.0056uF	5%	50V
C120	1-136-164-00	FILM	0.082uF	5%	50V
C121	1-136-164-00	FILM	0.082uF	5%	50V

Ref. No.	Part No.	Description			Remark
C122	1-136-165-00	FILM	0.1uF	5%	50V
C123	1-136-165-00	FILM	0.1uF	5%	50V
C124	1-126-960-11	ELECT	1uF	20%	50V
C125	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C126	1-124-994-11	ELECT	100uF	20%	10V
C127	1-130-474-00	MYLAR	0.0018uF	5%	50V
C128	1-106-359-00	MYLAR	4700PF	5%	200V
C129	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C130	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C131	1-104-665-11	ELECT	100uF	20%	10V
C132	1-136-165-00	FILM	0.1uF	5%	50V
C133	1-126-934-11	ELECT	220uF	20%	10V
C201	1-126-959-11	ELECT	0.47uF	20%	50V
C202	1-126-963-11	ELECT	4.7uF	20%	50V
C203	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C206	1-126-963-11	ELECT	4.7uF	20%	50V
C210	1-126-963-11	ELECT	4.7uF	20%	50V
C211	1-126-963-11	ELECT	4.7uF	20%	50V
C216	1-126-963-11	ELECT	4.7uF	20%	50V
C217	1-130-480-00	MYLAR	0.0056uF	5%	50V
C220	1-136-164-00	FILM	0.082uF	5%	50V
C221	1-136-164-00	FILM	0.082uF	5%	50V
C222	1-136-165-00	FILM	0.1uF	5%	50V
C223	1-136-165-00	FILM	0.1uF	5%	50V
C224	1-126-960-11	ELECT	1uF	20%	50V
C225	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C226	1-124-994-11	ELECT	100uF	20%	10V
C227	1-130-474-00	MYLAR	0.0018uF	5%	50V
C228	1-106-359-00	MYLAR	4700PF	5%	200V
C229	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C230	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C231	1-104-665-11	ELECT	100uF	20%	10V
C232	1-136-165-00	FILM	0.1uF	5%	50V
C233	1-126-934-11	ELECT	220uF	20%	10V
C301	1-124-994-11	ELECT	100uF	20%	10V
C302	1-126-934-11	ELECT	220uF	20%	10V
C303	1-126-964-11	ELECT	10uF	20%	50V
C304	1-104-665-11	ELECT	100uF	20%	10V
C307	1-126-964-11	ELECT	10uF	20%	50V
C308	1-126-964-11	ELECT	10uF	20%	50V
C309	1-104-665-11	ELECT	100uF	20%	10V
C311	1-126-964-11	ELECT	10uF	20%	50V
C701	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C702	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C703	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C704	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C705	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C706	1-124-994-11	ELECT	100uF	20%	10V
C707	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C708	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C709	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C710	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C711	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C712	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C713	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C714	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C715	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C716	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

MAIN

Ref. No.	Part No.	Description			Remark
C717	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C718	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C719	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C720	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C721	1-104-664-11	ELECT	47uF	20%	16V
C722	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C723	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C724	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C725	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C726	1-104-509-11	CERAMIC CHIP	0.018uF	10%	16V
C727	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C728	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C729	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C730	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C731	1-124-994-11	ELECT	100uF	20%	10V
C732	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C733	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C734	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C735	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C736	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C737	1-124-994-11	ELECT	100uF	20%	10V
C739	1-124-994-11	ELECT	100uF	20%	10V
C741	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C742	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C743	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C744	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C745	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C747	1-126-925-11	ELECT	470uF	20%	10V
C748	1-104-665-11	ELECT	100uF	20%	10V
C749	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C750	1-124-994-11	ELECT	100uF	20%	10V
C751	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C752	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C753	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C754	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C755	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C756	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C757	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C758	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C759	1-104-665-11	ELECT	100uF	20%	10V
C760	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C762	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C763	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C764	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C765	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C766	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C767	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C768	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C770	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C771	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C772	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C773	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C775	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C777	1-126-963-11	ELECT	4.7uF	20%	50V
C778	1-126-963-11	ELECT	4.7uF	20%	50V
C779	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C780	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

Ref. No.	Part No.	Description			Remark
C781	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C782	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C783	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C784	1-127-508-00	ELECT	2.2uF	20%	25V
C786	1-127-508-00	ELECT	2.2uF	20%	25V
C787	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C788	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C789	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C801	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C802	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C803	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C804	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C805	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C806	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C807	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C808	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C809	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C810	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C811	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C812	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C813	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C814	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C815	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C816	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C817	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C818	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C819	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C820	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C821	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C822	1-104-664-11	ELECT	47uF	20%	16V
C823	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C824	1-104-665-11	ELECT	100uF	20%	10V
C825	1-104-664-11	ELECT	47uF	20%	16V
C826	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C827	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C829	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C830	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C831	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C832	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C833	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C834	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C835	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C836	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C837	1-163-059-91	CERAMIC CHIP	0.01uF	10%	50V
C838	1-127-508-00	ELECT	2.2uF	20%	25V
C839	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C840	1-163-059-91	CERAMIC CHIP	0.01uF	10%	50V
C841	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C842	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C843	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C844	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C845	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C847	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C850	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C851	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C852	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C853	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C854	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V

Ref. No.	Part No.	Description			Remark
C855	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C856	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C857	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C858	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C859	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C860	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C861	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C866	1-126-960-11	ELECT	1uF	20%	50V
C867	1-126-960-11	ELECT	1uF	20%	50V
C871	1-126-233-11	ELECT	22uF	20%	50V
C880	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C881	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C901	1-126-044-11	ELECT	1uF	20%	50V
C902	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C903	1-124-994-11	ELECT	100uF	20%	10V
C904	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C905	1-125-784-11	ELECT	15000uF	20%	25V
C906	1-126-934-11	ELECT	220uF	20%	10V
C907	1-104-665-11	ELECT	100uF	20%	10V
C908	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C909	1-126-964-11	ELECT	10uF	20%	50V
C910	1-127-508-00	ELECT	2.2uF	20%	25V
C911	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C912	1-104-905-11	CAPACITOR	0.22F		5.5V
C913	1-126-964-11	ELECT	10uF	20%	50V
C914	1-126-964-11	ELECT	10uF	20%	50V
C915	1-126-964-11	ELECT	10uF	20%	50V
C916	1-104-664-11	ELECT	47uF	20%	10V
C917	1-127-508-00	ELECT	2.2uF	20%	25V
C918	1-127-508-00	ELECT	2.2uF	20%	25V
C919	1-126-964-11	ELECT	10uF	20%	50V
C920	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C921	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C922	1-126-964-11	ELECT	10uF	20%	50V
C923	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C924	1-126-968-11	ELECT	100uF	20%	50V
C925	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C926	1-126-964-11	ELECT	10uF	20%	50V
C927	1-127-508-00	ELECT	2.2uF	20%	25V
C928	1-113-981-11	TANTAL. CHIP	22uF	20%	20V

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN701	1-569-324-11	SOCKET, CONNECTOR 21P	
* CN703	1-580-154-11	PIN, CONNECTOR (PC BOARD) 2P	
CN801	1-569-321-11	SOCKET, CONNECTOR 15P	
CN802	1-573-489-11	PIN, CONNECTOR (PC BOARD) 11P	
CN803	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P	
CN804	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P	
CN805	1-569-326-11	SOCKET, CONNECTOR 26P	
CN806	1-568-443-11	SOCKET, CONNECTOR 13P	
* CN807	1-691-581-11	PIN, CONNECTOR (PC BOARD) 10P	
* CN808	1-573-489-21	PIN, CONNECTOR (PC BOARD) 11P	
* CN809	1-580-158-11	PIN, CONNECTOR (PC BOARD) 6P	
* CN810	1-580-158-11	PIN, CONNECTOR (PC BOARD) 6P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D301	8-719-801-78	DIODE 1SS184	
D302	8-719-404-49	DIODE MA111	
D303	8-719-800-76	DIODE 1SS226	
D306	8-719-404-49	DIODE MA111	
D711	8-719-404-49	DIODE MA111	
D712	8-719-404-49	DIODE MA111	
D901	8-719-988-62	DIODE 1SS355	
D902	8-719-421-27	DIODE MA728	
D903	8-719-018-12	DIODE MA8330	
D904	8-719-422-67	DIODE MA8062-H	
D905	8-719-404-49	DIODE MA111	
D906	8-719-421-27	DIODE MA728	
D907	8-719-421-27	DIODE MA728	
D910	8-719-404-49	DIODE MA111	

< FERRITE BEAD >

Ref. No.	Part No.	Description			Remark
FB301	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB302	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB303	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB304	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB305	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB306	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB307	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB308	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB309	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB310	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB311	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB312	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB313	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB314	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB315	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB316	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB318	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB320	1-216-295-00	METAL CHIP	0	5%	1/10W
FB321	1-216-295-00	METAL CHIP	0	5%	1/10W
FB322	1-216-295-00	METAL CHIP	0	5%	1/10W
FB323	1-216-295-00	METAL CHIP	0	5%	1/10W
FB324	1-216-295-00	METAL CHIP	0	5%	1/10W
FB325	1-216-295-00	METAL CHIP	0	5%	1/10W
FB326	1-216-295-00	METAL CHIP	0	5%	1/10W
FB327	1-216-295-00	METAL CHIP	0	5%	1/10W
FB328	1-216-295-00	METAL CHIP	0	5%	1/10W
FB329	1-216-295-00	METAL CHIP	0	5%	1/10W
FB330	1-216-295-00	METAL CHIP	0	5%	1/10W

< IC >

Ref. No.	Part No.	Description	Remark
IC101	8-759-636-55	IC M5218AFP	
IC201	8-759-636-55	IC M5218AFP	
IC301	8-759-567-92	IC TDA7439DS013TR	
IC302	8-759-701-02	IC NJM2073M	
IC701	8-752-082-14	IC CXA1992BR	
IC702	8-759-473-42	IC BA6898FP	
IC703	8-752-384-13	IC CXD2589Q	
IC704	8-759-476-21	IC BA05SFP-E2	
IC801	8-752-900-67	IC CXP84648-037Q	
IC802	8-759-445-91	IC RN5VT28AA-TL	
IC803	8-759-398-68	IC S-29330AFJ-TB	
IC804	8-759-233-66	IC TC74HCT04AF	
IC901	8-759-463-93	IC L88MS06T-FA-TL	

MAIN

Ref. No.	Part No.	Description			Remark
IC902	8-759-290-19	IC BA3960			
IC903	8-759-494-77	IC RH5RL58AA-T1			
IC904	8-759-442-54	IC RH5RL50AA-T1			
IC905	8-759-938-15	IC BA178M05			
		< JUMPER RESISTOR >			
JC301	1-216-864-11	METAL CHIP	0	5%	1/16W
JC701	1-216-295-00	METAL CHIP	0	5%	1/10W
JC702	1-216-864-11	METAL CHIP	0	5%	1/16W
JC703	1-216-295-00	METAL CHIP	0	5%	1/10W
JC704	1-216-296-00	METAL CHIP	0	5%	1/8W
JC705	1-216-296-00	METAL CHIP	0	5%	1/8W
JC802	1-216-295-00	METAL CHIP	0	5%	1/10W
JC803	1-216-295-00	METAL CHIP	0	5%	1/10W
JC805	1-216-295-00	METAL CHIP	0	5%	1/10W (US)
JC806	1-216-295-00	METAL CHIP	0	5%	1/10W (EXCEPT US)
JC807	1-216-295-00	METAL CHIP	0	5%	1/10W
JC809	1-216-296-00	METAL CHIP	0	5%	1/8W
JC850	1-216-295-00	METAL CHIP	0	5%	1/10W
JC851	1-216-295-00	METAL CHIP	0	5%	1/10W
JC852	1-216-295-00	METAL CHIP	0	5%	1/10W
JC860	1-216-296-00	METAL CHIP	0	5%	1/8W
		< COIL >			
L101	1-410-999-11	INDUCTOR CHIP	3.3uH		
L102	1-410-999-11	INDUCTOR CHIP	3.3uH		
L103	1-410-999-11	INDUCTOR CHIP	3.3uH		
L104	1-410-999-11	INDUCTOR CHIP	3.3uH		
L105	1-410-999-11	INDUCTOR CHIP	3.3uH		
L106	1-410-999-11	INDUCTOR CHIP	3.3uH		
L201	1-410-999-11	INDUCTOR CHIP	3.3uH		
L202	1-410-999-11	INDUCTOR CHIP	3.3uH		
L203	1-410-999-11	INDUCTOR CHIP	3.3uH		
L204	1-410-999-11	INDUCTOR CHIP	3.3uH		
L205	1-410-999-11	INDUCTOR CHIP	3.3uH		
L206	1-410-999-11	INDUCTOR CHIP	3.3uH		
L701	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
L801	1-216-295-00	METAL CHIP	0	5%	1/10W
L802	1-216-295-00	METAL CHIP	0	5%	1/10W
		< TRANSISTOR >			
Q102	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q103	8-729-920-31	TRANSISTOR	DTC343TK		
Q202	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q203	8-729-920-31	TRANSISTOR	DTC343TK		
Q301	8-729-031-43	TRANSISTOR	IMD9A-T108		
Q303	8-729-031-43	TRANSISTOR	IMD9A-T108		
Q304	8-729-901-46	TRANSISTOR	DTA114YK		
Q305	8-729-027-46	TRANSISTOR	DTC114YKA-T146		
Q701	8-729-101-07	TRANSISTOR	2SB798-DL		
Q702	8-729-027-62	TRANSISTOR	DTC144WKA-T146		
Q703	8-729-901-46	TRANSISTOR	DTA114YK		
Q704	8-729-027-56	TRANSISTOR	DTC143TKA-T146		
Q705	8-729-027-56	TRANSISTOR	DTC143TKA-T146		
Q801	8-729-027-46	TRANSISTOR	DTC114YKA-T146		
Q802	8-729-024-33	TRANSISTOR	XN1509-TX		

Ref. No.	Part No.	Description			Remark
Q803	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q902	8-729-027-58	TRANSISTOR	DTC143ZKA-T146		
Q903	8-729-402-84	TRANSISTOR	XN4601		
Q905	8-729-031-43	TRANSISTOR	IMD9A-T108		
Q909	8-729-031-43	TRANSISTOR	IMD9A-T108		
Q910	8-729-019-72	TRANSISTOR	2SB1260		
		< RESISTOR >			
R101	1-218-758-11	RES,CHIP	180K	5%	1/10W
R103	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W
R104	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R105	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R106	1-218-776-11	RES,CHIP	1M	5%	1/10W
R107	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R108	1-216-821-11	METAL CHIP	1K	5%	1/16W
R110	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R111	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R112	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R113	1-216-809-11	METAL CHIP	100	5%	1/16W
R114	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R115	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R116	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R117	1-216-025-91	RES,CHIP	100	5%	1/10W
R119	1-216-821-11	METAL CHIP	1K	5%	1/16W
R201	1-218-758-11	RES,CHIP	180K	5%	1/10W
R203	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W
R204	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R205	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R206	1-218-776-11	RES,CHIP	1M	5%	1/10W
R207	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R208	1-216-821-11	METAL CHIP	1K	5%	1/16W
R210	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R211	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R212	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R213	1-216-809-11	METAL CHIP	100	5%	1/16W
R214	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R215	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R216	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R217	1-216-025-91	RES,CHIP	100	5%	1/10W
R219	1-216-821-11	METAL CHIP	1K	5%	1/16W
R301	1-216-015-00	METAL CHIP	39	5%	1/10W
R302	1-216-615-11	METAL CHIP	33	0.5%	1/10W
R303	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R304	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R305	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R306	1-216-017-91	RES,CHIP	47	5%	1/10W
R308	1-216-821-11	METAL CHIP	1K	5%	1/16W
R309	1-216-841-11	METAL CHIP	47K	5%	1/16W
R310	1-216-821-11	METAL CHIP	1K	5%	1/16W
R311	1-216-089-91	RES,CHIP	47K	5%	1/10W
R315	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R701	1-216-849-11	METAL CHIP	220K	5%	1/16W
R702	1-216-864-11	METAL CHIP	0	5%	1/16W
R703	1-216-847-11	METAL CHIP	150K	5%	1/16W
R704	1-216-841-11	METAL CHIP	47K	5%	1/16W
R705	1-216-841-11	METAL CHIP	47K	5%	1/16W
R706	1-216-847-11	METAL CHIP	150K	5%	1/16W
R707	1-216-847-11	METAL CHIP	150K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R708	1-216-847-11	METAL CHIP	150K	5%	1/16W
R709	1-216-121-91	RES,CHIP	1M	5%	1/10W
R710	1-216-109-00	METAL CHIP	330K	5%	1/10W
R712	1-216-841-11	METAL CHIP	47K	5%	1/16W
R713	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R714	1-216-836-11	METAL CHIP	18K	5%	1/16W
R715	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R716	1-216-841-11	METAL CHIP	47K	5%	1/16W
R717	1-216-857-11	METAL CHIP	1M	5%	1/16W
R718	1-216-855-11	METAL CHIP	680K	5%	1/16W
R719	1-216-001-00	METAL CHIP	10	5%	1/10W
R720	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R721	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R722	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R723	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R724	1-216-847-11	METAL CHIP	150K	5%	1/16W
R725	1-216-851-11	METAL CHIP	330K	5%	1/16W
R726	1-218-912-11	RES,CHIP	510K	0.50%	1/16W
R727	1-216-847-11	METAL CHIP	150K	5%	1/16W
R728	1-216-847-11	METAL CHIP	150K	5%	1/16W
R729	1-216-834-11	METAL CHIP	12K	5%	1/16W
R730	1-216-849-11	METAL CHIP	220K	5%	1/16W
R731	1-216-847-11	METAL CHIP	150K	5%	1/16W
R732	1-216-841-11	METAL CHIP	47K	5%	1/16W
R733	1-216-845-11	METAL CHIP	100K	5%	1/16W
R734	1-216-839-11	METAL CHIP	33K	5%	1/16W
R735	1-216-833-11	METAL CHIP	10K	5%	1/16W
R736	1-216-833-11	METAL CHIP	10K	5%	1/16W
R737	1-216-839-11	METAL CHIP	33K	5%	1/16W
R738	1-216-837-11	METAL CHIP	22K	5%	1/16W
R739	1-216-837-11	METAL CHIP	22K	5%	1/16W
R740	1-216-864-11	METAL CHIP	0	5%	1/16W
R741	1-216-864-11	METAL CHIP	0	5%	1/16W
R742	1-216-864-11	METAL CHIP	0	5%	1/16W
R743	1-216-864-11	METAL CHIP	0	5%	1/16W
R744	1-216-864-11	METAL CHIP	0	5%	1/16W
R745	1-216-821-11	METAL CHIP	1K	5%	1/16W
R746	1-216-821-11	METAL CHIP	1K	5%	1/16W
R747	1-216-821-11	METAL CHIP	1K	5%	1/16W
R748	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R749	1-216-833-11	METAL CHIP	10K	5%	1/16W
R750	1-216-833-11	METAL CHIP	10K	5%	1/16W
R751	1-216-833-11	METAL CHIP	10K	5%	1/16W
R752	1-216-841-11	METAL CHIP	47K	5%	1/16W
R753	1-216-821-11	METAL CHIP	1K	5%	1/16W
R754	1-216-821-11	METAL CHIP	1K	5%	1/16W
R755	1-216-821-11	METAL CHIP	1K	5%	1/16W
R756	1-216-821-11	METAL CHIP	1K	5%	1/16W
R757	1-216-864-11	METAL CHIP	0	5%	1/16W
R758	1-216-821-11	METAL CHIP	1K	5%	1/16W
R759	1-216-821-11	METAL CHIP	1K	5%	1/16W
R760	1-216-864-11	METAL CHIP	0	5%	1/16W
R761	1-216-864-11	METAL CHIP	0	5%	1/16W
R762	1-216-089-91	RES,CHIP	47K	5%	1/10W
R763	1-216-089-91	RES,CHIP	47K	5%	1/10W
R764	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R765	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R766	1-216-821-11	METAL CHIP	1K	5%	1/16W
R767	1-216-833-11	METAL CHIP	10K	5%	1/16W
R768	1-216-857-11	METAL CHIP	1M	5%	1/16W
R769	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R770	1-216-833-11	METAL CHIP	10K	5%	1/16W
R771	1-216-849-11	METAL CHIP	220K	5%	1/16W
R772	1-216-837-11	METAL CHIP	22K	5%	1/16W
R773	1-216-295-00	METAL CHIP	0	5%	1/10W
R774	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W
R775	1-216-295-00	METAL CHIP	0	5%	1/10W
R776	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W
R781	1-216-073-00	METAL CHIP	10K	5%	1/10W
R782	1-216-073-00	METAL CHIP	10K	5%	1/10W
R801	1-216-097-91	RES,CHIP	100K	5%	1/10W
R802	1-216-853-11	METAL CHIP	470K	5%	1/16W
R803	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R804	1-216-853-11	METAL CHIP	470K	5%	1/16W
R805	1-216-073-00	METAL CHIP	10K	5%	1/10W
R806	1-216-073-00	METAL CHIP	10K	5%	1/10W
R807	1-216-073-00	METAL CHIP	10K	5%	1/10W
R808	1-216-073-00	METAL CHIP	10K	5%	1/10W
R814	1-216-041-00	METAL CHIP	470	5%	1/10W
R815	1-216-833-11	METAL CHIP	10K	5%	1/16W
R816	1-216-833-11	METAL CHIP	10K	5%	1/16W
R819	1-216-836-11	METAL CHIP	18K	5%	1/16W
R820	1-216-836-11	METAL CHIP	18K	5%	1/16W
R823	1-216-821-11	METAL CHIP	1K	5%	1/16W
R824	1-216-821-11	METAL CHIP	1K	5%	1/16W
R833	1-216-049-91	RES,CHIP	1K	5%	1/10W
R835	1-216-821-11	METAL CHIP	1K	5%	1/16W
R838	1-216-851-11	METAL CHIP	330K	5%	1/16W
R840	1-216-809-11	METAL CHIP	100	5%	1/16W
R842	1-216-821-11	METAL CHIP	1K	5%	1/16W
R850	1-216-833-11	METAL CHIP	10K	5%	1/16W
R851	1-216-815-11	METAL CHIP	330	5%	1/16W
R867	1-216-833-11	METAL CHIP	10K	5%	1/16W
R868	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R869	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R870	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R871	1-216-841-11	METAL CHIP	47K	5%	1/16W
R875	1-216-841-11	METAL CHIP	47K	5%	1/16W
R879	1-216-833-11	METAL CHIP	10K	5%	1/16W
R880	1-216-833-11	METAL CHIP	10K	5%	1/16W
R881	1-216-841-11	METAL CHIP	47K	5%	1/16W
R882	1-216-841-11	METAL CHIP	47K	5%	1/16W
R883	1-216-833-11	METAL CHIP	10K	5%	1/16W
R884	1-216-833-11	METAL CHIP	10K	5%	1/16W
R885	1-216-841-11	METAL CHIP	47K	5%	1/16W
R886	1-216-841-11	METAL CHIP	47K	5%	1/16W
R901	1-216-089-91	RES,CHIP	47K	5%	1/10W
R902	1-216-113-00	METAL CHIP	470K	5%	1/10W
R903	1-216-073-00	METAL CHIP	10K	5%	1/10W
R904	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R905	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R906	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R907	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R908	1-216-821-11	METAL CHIP	1K	5%	1/16W
R909	1-216-639-11	METAL CHIP	330	0.5%	1/10W

MAIN **PICK-UP RELAY** **RELAY** **RIGHT KEY** **SW**

Ref. No.	Part No.	Description			Remark
R910	1-216-025-91	RES,CHIP	100	5%	1/10W
R911	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R912	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R913	1-216-109-00	METAL CHIP	330K	5%	1/10W
R914	1-216-226-00	RES,CHIP	15K	5%	1/8W
R915	1-216-809-11	METAL CHIP	100	5%	1/16W
R916	1-216-843-11	METAL CHIP	68K	5%	1/16W
R917	1-216-837-11	METAL CHIP	22K	5%	1/16W
R918	1-216-845-11	METAL CHIP	100K	5%	1/16W
R919	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R920	1-216-109-00	METAL CHIP	330K	5%	1/10W
R924	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R926	1-216-845-11	METAL CHIP	100K	5%	1/16W
R927	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R928	1-216-841-11	METAL CHIP	47K	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB801	1-236-908-11	RES, CHIP NETWORK 10K			
RB802	1-233-412-11	RES, CHIP NETWORK 1K			
RB803	1-233-412-11	RES, CHIP NETWORK 1K			
RB804	1-236-908-11	RES, CHIP NETWORK 10K			
RB805	1-233-412-11	RES, CHIP NETWORK 1K			
RB806	1-236-908-11	RES, CHIP NETWORK 10K			
RB807	1-233-412-11	RES, CHIP NETWORK 1K			
RB808	1-233-412-11	RES, CHIP NETWORK 1K			
RB809	1-236-908-11	RES, CHIP NETWORK 10K			
RB810	1-236-908-11	RES, CHIP NETWORK 10K			
RB811	1-233-412-11	RES, CHIP NETWORK 1K			
RB812	1-233-412-11	RES, CHIP NETWORK 1K			
RB813	1-233-577-11	RES, CHIP NETWORK 470			
RB814	1-233-412-11	RES, CHIP NETWORK 1K			
		< VIBRATOR >			
X701	1-767-226-11	VIBRATOR, CRYSTAL (16.9344MHz)			
X801	1-767-697-11	VIBRATOR, CRYSTAL (32.768kHz)			
X802	1-767-839-11	VIBRATOR, CERAMIC (5MHz)			
**********					
*	1-667-046-11	PICK-UP RELAY BOARD			
		**********			
		< CONNECTOR >			
CN702	1-565-874-31	PIN, CONNECTOR (PC BOARD) 2P			
CN703	1-565-874-11	PIN, CONNECTOR (PC BOARD) 2P			
CN704	1-565-874-11	PIN, CONNECTOR (PC BOARD) 2P			
CN706	1-784-213-11	CONNECTOR, FFC/FPC 14P			
CN707	1-569-309-11	SOCKET, CONNECTOR (L TYPE) 21P			
**********					
*	1-668-258-21	RELAY BOARD (EXCEPT US)			
*	1-668-258-31	RELAY BOARD (US)			
		**********			
		< CONNECTOR >			
CN408	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P			
* CN409	1-580-159-11	PIN, CONNECTOR (PC BOARD) 7P			
CN410	1-573-489-11	PIN, CONNECTOR (PC BOARD) 11P			
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Ref. No.	Part No.	Description			Remark
*	1-668-246-21	RIGHT KEY BOARD (EXCEPT US)			
*	1-668-246-31	RIGHT KEY BOARD (US)			
		**********			
		< CAPACITOR >			
C419	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C420	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
* CN402	1-580-163-11	PIN, CONNECTOR (PC BOARD) 2P			
* CN405	1-580-166-11	PIN, CONNECTOR (PC BOARD) 5P			
CN407	1-695-105-11	PIN, CONNECTOR (PC BOARD) 3P			
		< RESISTOR >			
R415	1-208-782-11	RES,CHIP	1K	0.50%	1/10W
R416	1-208-778-11	RES,CHIP	680	0.50%	1/10W
R417	1-208-778-11	RES,CHIP	680	0.50%	1/10W
R418	1-208-774-11	RES,CHIP	470	0.50%	1/10W
R419	1-208-774-11	RES,CHIP	470	0.50%	1/10W
R421	1-208-806-11	RES,CHIP	10K	0.50%	1/10W
R422	1-208-798-11	RES,CHIP	4.7K	0.50%	1/10W
R423	1-208-794-11	RES,CHIP	3.3K	0.50%	1/10W
R431	1-216-033-00	METAL CHIP	220	5%	1/10W
R432	1-216-033-00	METAL CHIP	220	5%	1/10W
		< SWITCH >			
S401	1-771-214-11	SWITCH, ROTARY (PRESET,I◀◀ AMS▶▶I)			
S821	1-692-014-11	SWITCH, KEY BOARD (CANSEL)			
S822	1-692-014-11	SWITCH, KEY BOARD (EDIT)			
S823	1-692-014-11	SWITCH, KEY BOARD (ENTER)			
S825	1-692-014-11	SWITCH, KEY BOARD (TUNE-,◀◀,⇦)			
S826	1-692-014-11	SWITCH, KEY BOARD (TUNE+,▶▶,⇨)			
S827	1-692-014-11	SWITCH, KEY BOARD (BASS/TREBLE)			
S828	1-692-014-11	SWITCH, KEY BOARD (DISPLAY)			
S829	1-692-014-11	SWITCH, KEY BOARD (VOLUME+)			
S830	1-692-014-11	SWITCH, KEY BOARD (VOLUME-)			
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*	1-661-774-11	SW BOARD			
		**********			
		< CONNECTOR >			
CN601	1-770-698-11	CONNECTOR, FFC/FPC 15P			
CN602	1-778-638-21	PIN, CONNECTOR (PC BOARD) 2P			
CN603	1-778-638-21	PIN, CONNECTOR (PC BOARD) 2P			
		< SWITCH >			
S681	1-572-467-61	SWITCH, PUSH (1 KEY) (LIMIT IN)			
S682	1-692-377-31	SWITCH, PUSH (1 KEY) (REFRECT)			
S683	1-692-847-21	SWITCH, PUSH (1 KEY) (PROTECT)			
S685	1-572-467-61	SWITCH, PUSH (1 KEY) (CHUCKING IN)			
S686	1-762-621-21	SWITCH, PUSH (1 KEY) (PACK OUT)			
S687	1-572-688-11	SWITCH, PUSH (1 KEY) (PB POSITION)			
S688	1-762-621-21	SWITCH, PUSH (1 KEY) (REC POSITION)			
**********					

Ref. No.	Part No.	Description			Remark
*	1-668-245-21	TOP KEY BOARD (EXCEPT US)			
*	1-668-245-31	TOP KEY BOARD (US)			
		**********			
	3-321-041-11	SCREW (M1.7X4), TAPPING			
	3-019-663-01	BUTTON (MEGABASS)			
		< CONNECTOR >			
* CN403	1-580-163-11	PIN, CONNECTOR (PC BOARD) 2P			
		< RESISTOR >			
R434	1-208-806-11	RES,CHIP	10K	0.50%	1/10W
R435	1-208-798-11	RES,CHIP	4.7K	0.50%	1/10W
R436	1-208-794-11	RES,CHIP	3.3K	0.50%	1/10W
R437	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R438	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
		< SWITCH >			
S831	1-692-014-11	SWITCH, KEY BOARD (DELETE)			
S832	1-692-014-11	SWITCH, KEY BOARD (INSERT)			
S833	1-692-014-11	SWITCH, KEY BOARD (AUTO PRESET, SHUF/PGM)			
S834	1-692-014-11	SWITCH, KEY BOARD(LINE LEVEL, MONO/ST, REPEAT)			
S835	1-692-014-11	SWITCH, KEY BOARD (MEGA BASS)			
**********					
*	A-3321-535-A	TRANS BOARD, COMPLETE (US)			
*	A-3321-561-A	TRANS BOARD, COMPLETE (EXCEPT US)			
		**********			
	1-533-293-11	FUSE HOLDER			
	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S			
		< CAPACITOR >			
C951	1-136-157-00	FILM	0.022uF	5%	50V
C952	1-136-157-00	FILM	0.022uF	5%	50V
C953	1-136-157-00	FILM	0.022uF	5%	50V
C954	1-136-157-00	FILM	0.022uF	5%	50V
C955	1-136-153-00	FILM	0.01uF	5%	50V
C957	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C958	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C959	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C960	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C961	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C963	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C964	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C965	1-126-968-11	ELECT	100uF	20%	50V
C967	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C968	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C969	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C970	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C971	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C972	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C973	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C974	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C975	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
⚠C977	1-113-925-11	CERAMIC	0.01uF	20%	250V
⚠C980	1-113-915-11	CERAMIC	0.001uF	20%	250V (EXCEPT US)

Ref. No.	Part No.	Description			Remark
C981	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C982	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C983	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C984	1-164-506-11	CERAMIC CHIP	4.7uF		16V
		< CONNECTOR >			
* CN951	1-580-158-11	PIN, CONNECTOR (PC BOARD) 6P			
* CN952	1-580-158-11	PIN, CONNECTOR (PC BOARD) 6P			
CN953	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P			
* CN954	1-564-507-11	PLUG, CONNECTOR 4P			
		< DIODE >			
D951	8-719-302-38	DIODE RBV-602-01			
D952	8-719-510-53	DIODE D4SB60L			
D953	8-719-801-78	DIODE 1SS184			
D954	8-719-210-33	DIODE EC10DS2			
D955	8-719-210-33	DIODE EC10DS2			
D956	8-719-210-33	DIODE EC10DS2			
D957	8-719-210-33	DIODE EC10DS2			
D958	8-719-210-33	DIODE EC10DS2			
		< FUSE >			
⚠F951	1-532-502-51	FUSE, TIME LAG (T1.25AL/250V) (EXCEPT US)			
⚠F951	1-576-101-11	FUSE (1.25A/125V) (US)			
⚠F952	1-532-506-51	FUSE, TIME LAG (T6.3AL/250V) (EXCEPT US)			
⚠F952	1-533-310-11	FUSE, GLASS TUBE (6.3A/125V) (US)			
⚠F953	1-532-465-51	FUSE, TIME LAG (T3.15AL/250V) (EXCEPT US)			
⚠F953	1-576-107-11	FUSE (3.15A/125V) (US)			
		< JUMPER RESISTOR >			
JC955	1-216-296-00	METAL CHIP	0	5%	1/8W
		< LINE FILTER >			
⚠LF951	1-411-528-11	COIL (COMMON MODE CHOKE)			
		< IC LINK >			
⚠PS951	1-576-122-21	LINK, IC (0.4A)			
⚠PS952	1-576-123-21	LINK, IC (0.8A)			
		< RESISTOR >			
R951	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R952	1-216-073-00	METAL CHIP	10K	5%	1/10W
R953	1-216-121-91	RES,CHIP	1M	5%	1/10W
⚠R954	1-202-725-00	SOLID	3.3M	10%	1/2W (US)
		< TRANSFORMER >			
⚠T951	1-433-444-11	TRANSFORMER, POWER (EXCEPT US)			
⚠T951	1-433-445-11	TRANSFORMER, POWER (US)			
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The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

TUNER

Ref. No.	Part No.	Description				Remark
*	A-3321-536-A	TUNER BOARD, COMPLETE (US)				
*	A-3321-562-A	TUNER BOARD, COMPLETE (EXCEPT US)				
		**********				
		< CAPACITOR >				
C1	1-126-963-11	ELECT	4.7uF	20%	50V	(EXCEPT US)
C1	1-163-243-11	CERAMIC CHIP	47PF	5%	50V	(US)
C2	1-126-924-11	ELECT	330uF	20%	10V	(EXCEPT US)
C2	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	(US)
C3	1-126-960-11	ELECT	1uF	20%	50V	(EXCEPT US)
C3	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	(US)
C4	1-126-960-11	ELECT	1uF	20%	50V	(EXCEPT US)
C4	1-126-963-11	ELECT	4.7uF	20%	50V	(US)
C5	1-126-964-11	ELECT	10uF	20%	50V	(EXCEPT US)
C5	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	(US)
C6	1-126-924-11	ELECT	330uF	20%	10V	(US)
C6	1-126-964-11	ELECT	10uF	20%	50V	(EXCEPT US)
C7	1-126-964-11	ELECT	10uF	20%	50V	(EXCEPT US)
C7	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	(US)
C8	1-163-024-91	CERAMIC CHIP	0.018uF			(US)
C9	1-126-934-11	ELECT	220uF	20%	10V	(EXCEPT US)
C9	1-163-024-91	CERAMIC CHIP	0.018uF			(US)
C10	1-126-960-11	ELECT	1uF	20%	50V	(US)
C11	1-126-960-11	ELECT	1uF	20%	50V	(US)
C11	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	(EXCEPT US)
C12	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	(EXCEPT US)
C12	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	(US)
C13	1-163-024-00	CERAMIC CHIP	0.018uF	5%	50V	(EXCEPT US)
C13	1-163-220-91	CERAMIC CHIP	3PF			(US)
C14	1-163-024-00	CERAMIC CHIP	0.018uF	5%	50V	(EXCEPT US)
C14	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	(US)
C15	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	(US)
C15	1-164-345-11	CERAMIC CHIP	0.082uF	10%	25V	(EXCEPT US)
C16	1-163-234-11	CERAMIC CHIP	20PF	5%	50V	(US)
C16	1-164-345-11	CERAMIC CHIP	0.082uF	10%	25V	(EXCEPT US)
C17	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	(US)
C17	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V	(EXCEPT US)
C18	1-163-263-11	CERAMIC CHIP	330PF	5%	50V	(EXCEPT US)
C18	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	(US)
C19	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	(US)
C19	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	(EXCEPT US)
C20	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	(EXCEPT US)
C20	1-163-263-11	CERAMIC CHIP	330PF	5%	50V	(US)
C21	1-126-964-11	ELECT	10uF	20%	50V	(US)
C21	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(EXCEPT US)
C22	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V	(US)
C23	1-164-345-11	CERAMIC CHIP	0.082uF	10%	25V	(US)
C24	1-164-345-11	CERAMIC CHIP	0.082uF	10%	25V	(US)
C25	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	(EXCEPT US)
C25	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	(US)
C26	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	(EXCEPT US)
C26	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	(US)
C27	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	(US)
C27	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	(EXCEPT US)
C28	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	(EXCEPT US)
C29	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	(EXCEPT US)
C30	1-104-640-11	FILM CHIP	0.22uF	5%	16V	(EXCEPT US)
C31	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(EXCEPT US)
C31	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	(US)
C32	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V	(EXCEPT US)
C33	1-126-964-11	ELECT	10uF	20%	50V	(US)
C33	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	(EXCEPT US)
C34	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	(US)
C35	1-126-964-11	ELECT	10uF	20%	50V	(US)
C36	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	(US)
C36	1-163-038-91	CERAMIC CHIP	0.1uF		25V	(EXCEPT US)

Ref. No.	Part No.	Description				Remark
C37	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	(US)
C37	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	(EXCEPT US)
C38	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	(US)
C38	1-163-234-11	CERAMIC CHIP	20PF	5%	50V	(EXCEPT US)
C39	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(US)
C39	1-163-038-91	CERAMIC CHIP	0.1uF	25V		(EXCEPT US)
C40	1-104-640-11	FILM CHIP	0.22uF	5%	16V	(US)
C41	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	(US)
C42	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	(US)
C42	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	(EXCEPT US)
C43	1-126-934-11	ELECT	220uF	20%	10V	(US)
C44	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	(US)
C45	1-126-160-11	ELECT	1uF	20%	50V	(US)
C46	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	(US)
C47	1-126-924-11	ELECT	330uF	20%	10V	(US)
C47	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	(EXCEPT US)
C48	1-164-346-11	CERAMIC CHIP	1uF	16V		(US)
C50	1-164-816-11	CERAMIC CHIP	220PF	2%	50V	(EXCEPT US)
C51	1-163-263-11	CERAMIC CHIP	330PF	5%	50V	(EXCEPT US)
C52	1-163-263-11	CERAMIC CHIP	330PF	5%	50V	(EXCEPT US)
C53	1-163-249-11	CERAMIC CHIP	82PF	5%	50V	(EXCEPT US)
C54	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	(EXCEPT US)
C57	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	(EXCEPT US)
C60	1-126-160-11	ELECT	1uF	20%	50V	(EXCEPT US)
C71	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	(EXCEPT US)
C72	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	(EXCEPT US)
C73	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	(EXCEPT US)
C74	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	(EXCEPT US)
C75	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	(EXCEPT US)
C76	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	(EXCEPT US)
C77	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	(EXCEPT US)
C78	1-164-346-11	CERAMIC CHIP	1uF		16V	
C79	1-126-924-11	ELECT	330uF	20%	10V	(EXCEPT US)
		< FILTER >				
CF1	1-760-127-11	FILTER, CERAMIC (US)				
CF2	1-760-127-11	FILTER, CERAMIC (US)				
CF2	1-760-468-11	FILTER, CERAMIC (EXCEPT US)				
CF3	1-760-127-11	FILTER, CERAMIC (US)				
CF3	1-760-468-11	FILTER, CERAMIC (EXCEPT US)				
CF4	1-579-762-11	VIBRATOR, CERAMIC				
CF5	1-760-468-11	FILTER, CERAMIC (EXCEPT US)				
		< COMPOSITION CIRCUIT BLOCK >				
CFT1	1-233-885-11	ENCAPSULATED COMPONENT(US)				
CFT1	1-239-173-11	ENCAPSULATED COMPONENT (EXCEPT US)				
		< CONNECTOR >				
CN1	1-568-444-11	SOCKET, CONNECTOR 13P				
* CN2	1-580-154-11	PIN, CONNECTOR (PC BOARD) 2P				
* CN3	1-580-154-11	PIN, CONNECTOR (PC BOARD) 2P				(US)
* CN40	1-580-154-11	PIN, CONNECTOR (PC BOARD) 2P				(EXCEPT US)
		< COMPOSITION CIRCUIT BLOCK >				
CP1	1-536-354-00	POST PIN				
CN42	1-536-354-00	POST PIN				
		< TRIMMER >				
CT1	1-141-410-11	CAP, ADJ 10PF				(US)
CT2	1-141-410-11	CAP, ADJ 10PF				(EXCEPT US)
CT3	1-141-410-11	CAP, ADJ 10PF				(EXCEPT US)
CT4	1-141-459-11	CAP, TRIMMER (SEAL TYPE) 45PF				(EXCEPT US)
CT5	1-141-459-11	CAP, TRIMMER (SEAL TYPE) 45PF				(EXCEPT US)
		< DIODE >				
D1	8-719-988-62	DIODE 1SS355 (US)				
D2	8-719-988-62	DIODE 1SS355 (US)				
D3	8-719-049-75	DIODE KV1520TL00 (EXCEPT US)				
D3	8-719-988-62	DIODE 1SS355 (US)				
D4	8-719-988-62	DIODE 1SS355				
D5	8-719-049-75	DIODE KV1520TL00 (US)				
D5	8-719-988-62	DIODE 1SS355 (EXCEPT US)				
D6	8-719-988-62	DIODE 1SS355 (US)				
D10	8-719-988-62	DIODE 1SS355 (EXCEPT US)				
D40	8-719-988-62	DIODE 1SS355 (EXCEPT US)				
D41	8-719-988-62	DIODE 1SS355 (EXCEPT US)				
D50	8-719-988-62	DIODE 1SS355 (EXCEPT US)				
D51	8-719-988-62	DIODE 1SS355 (EXCEPT US)				
		< FERRITE BEAD >				
FB1	1-414-235-11	INDUCTOR, FERRITE BEAD				
FB2	1-414-235-11	INDUCTOR, FERRITE BEAD				
FB3	1-414-235-11	INDUCTOR, FERRITE BEAD				
FB4	1-414-235-11	INDUCTOR, FERRITE BEAD (US)				
FB4	1-414-235-21	INDUCTOR, FERRITE BEAD (EXCEPT US)				

TUNER

Ref. No.	Part No.	Description			Remark
FB5	1-414-235-11	INDUCTOR, FERRITE BEAD (EXCEPT US)			
FB6	1-414-235-11	INDUCTOR, FERRITE BEAD (EXCEPT US)			
FB7	1-414-235-11	INDUCTOR, FERRITE BEAD (US)			
		< IC >			
IC1	8-759-386-02	IC TA2008AN			
IC2	8-759-459-42	IC BU2615FS			
		< JUMPER RESISTOR >			
JC1	1-216-295-00	METAL CHIP	0	5%	1/10W
JC2	1-216-295-00	METAL CHIP	0	5%	1/10W
JC50	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT US)
		< COIL >			
L1	1-416-556-11	COIL, AM ANT	(US)		
L2	1-411-959-11	COIL, AM OSC	(US)		
L3	1-416-556-11	COIL, AM ANT	(EXCEPT US)		
L4	1-411-959-11	COIL, AM OSC	(EXCEPT US)		
L5	1-416-129-11	COIL, LW ANT	(EXCEPT US)		
L10	1-233-306-31	ENCAPSULATED COMPONENT (EXCEPT US)			
L50	1-410-071-11	INDUCTOR	10mH (EXCEPT US)		
L52	1-216-017-91	RES,CHIP	47	5%	1/10W (EXCEPT US)
L70	1-500-284-21	INDUCTOR CHIP (EXCEPT US)			
		< TRANSISTOR >			
Q1	8-729-025-28	TRANSISTOR 2SK1828 (EXCEPT US)			
Q1	8-729-120-28	TRANSISTOR 2SC1623-L5L6 (US)			
Q2	8-729-027-38	TRANSISTOR DTA144EKA-T146 (US)			
Q3	1-801-806-11	TRANSISTOR DTC144EKA-T146 (US)			
Q3	8-729-904-07	TRANSISTOR FMG2 (EXCEPT US)			
Q4	1-801-806-11	TRANSISTOR DTC144EKA-T146 (EXCEPT US)			
Q4	8-729-904-07	TRANSISTOR FMG2 (US)			
Q5	8-729-027-24	TRANSISTOR DTA114TKA-T146 (EXCEPT US)			
Q5	8-729-035-74	TRANSISTOR FMG4AT148 (US)			
Q6	8-729-921-25	TRANSISTOR FMC2			
Q7	8-729-027-24	TRANSISTOR DTA114TKA-T146 (US)			
Q7	8-729-120-28	TRANSISTOR 2SC1623-L5L6 (EXCEPT US)			
Q8	8-729-025-28	TRANSISTOR 2SK1828 (US)			
Q8	8-729-035-74	TRANSISTOR FMG4AT148 (EXCEPT US)			
Q50	8-729-027-38	TRANSISTOR DTA144EKA-T146 (EXCEPT US)			
Q51	8-729-039-73	TRANSISTOR FMA5A-T148 (EXCEPT US)			
Q52	8-729-931-02	TRANSISTOR 2SC2413KQ (EXCEPT US)			
Q53	8-729-920-38	TRANSISTOR 2SC2059K-N (EXCEPT US)			
Q54	8-729-920-31	TRANSISTOR DTC343TK (EXCEPT US)			
Q57	8-729-119-32	TRANSISTOR 2SK193 (EXCEPT US)			
		< RESISTOR >			
R1	1-216-065-91	RES,CHIP	4.7K	5%	1/10W (EXCEPT US)
R2	1-216-019-00	METAL CHIP	56	5%	1/10W (EXCEPT US)
R2	1-216-097-91	RES,CHIP	100K	5%	1/10W (US)
R3	1-216-037-00	METAL CHIP	330	5%	1/10W (US)
R3	1-216-081-00	METAL CHIP	22K	5%	1/10W (EXCEPT US)
R4	1-216-025-91	RES,CHIP	100	5%	1/10W (US)
R4	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (EXCEPT US)
R5	1-216-025-91	RES,CHIP	100	5%	1/10W (US)
R5	1-216-073-00	METAL CHIP	10K	5%	1/10W (EXCEPT US)
R6	1-216-065-91	RES,CHIP	4.7K	5%	1/10W (US)
R6	1-216-833-11	METAL CHIP	10K	5%	1/16W (EXCEPT US)
R7	1-216-019-00	METAL CHIP	56	5%	1/10W (US)
R8	1-216-027-00	METAL CHIP	120	5%	1/10W (US)
R8	1-216-045-00	METAL CHIP	680	5%	1/10W (EXCEPT US)
R9	1-216-049-91	RES,CHIP	1K	5%	1/10W (EXCEPT US)
R9	1-216-609-11	METAL CHIP	18	0.5%	1/10W (US)
R10	1-216-821-11	METAL CHIP	1K	5%	1/16W (US)
R10	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (EXCEPT US)
R11	1-216-836-11	METAL CHIP	18K	5%	1/16W (EXCEPT US)
R11	1-216-845-11	METAL CHIP	100K	5%	1/16W (US)
R12	1-216-073-00	METAL CHIP	10K	5%	1/10W (US)
R12	1-216-821-11	METAL CHIP	1K	5%	1/16W (EXCEPT US)
R13	1-216-049-91	RES,CHIP	1K	5%	1/10W (US)
R13	1-216-097-91	RES,CHIP	100K	5%	1/10W (EXCEPT US)
R14	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (US)
R15	1-216-057-00	METAL CHIP	2.2K	5%	1/10W (EXCEPT US)
R15	1-216-081-00	METAL CHIP	22K	5%	1/10W (US)
R16	1-216-097-91	RES,CHIP	100K	5%	1/10W (EXCEPT US)
R16	1-216-841-11	METAL CHIP	47K	5%	1/16W (US)
R17	1-216-037-00	METAL CHIP	330	5%	1/10W (EXCEPT US)
R18	1-216-020-91	METAL CHIP	62	5%	1/10W (EXCEPT US)
R18	1-216-089-91	RES,CHIP	47K	5%	1/10W (US)
R20	1-216-089-91	RES,CHIP	47K	5%	1/10W (US)
R21	1-216-089-91	RES,CHIP	47K	5%	1/10W (EXCEPT US)
R21	1-216-821-11	METAL CHIP	1K	5%	1/16W (US)
R22	1-216-089-91	RES,CHIP	47K	5%	1/10W (EXCEPT US)

Ref. No.	Part No.	Description			Remark
R22	1-216-821-11	METAL CHIP	1K	5%	1/16W (US)
R23	1-216-821-11	METAL CHIP	1K	5%	1/16W (US)
R24	1-216-821-11	METAL CHIP	1K	5%	1/16W (US)
R25	1-216-833-11	METAL CHIP	10K	5%	1/16W
R26	1-216-073-00	METAL CHIP	10K	5%	1/10W (US)
R26	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT US)
R27	1-216-833-11	METAL CHIP	10K	5%	1/16W (US)
R27	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT US)
R28	1-216-045-00	METAL CHIP	680	5%	1/10W (US)
R28	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT US)
R29	1-216-049-91	RES,CHIP	1K	5%	1/10W (US)
R29	1-216-833-11	METAL CHIP	10K	5%	1/16W (EXCEPT US)
R30	1-216-813-11	METAL CHIP	220	5%	1/16W (US)
R31	1-216-073-00	METAL CHIP	10K	5%	1/10W (EXCEPT US)
R31	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (US)
R32	1-216-834-11	METAL CHIP	12K	5%	1/16W (US)
R32	1-216-845-11	METAL CHIP	100K	5%	1/16W (EXCEPT US)
R33	1-216-025-91	RES,CHIP	100	5%	1/10W (EXCEPT US)
R33	1-216-821-11	METAL CHIP	1K	5%	1/16W (US)
R34	1-216-833-11	METAL CHIP	10K	5%	1/16W
R35	1-216-025-91	RES,CHIP	100	5%	1/10W (US)
R35	1-216-841-11	METAL CHIP	47K	5%	1/16W (EXCEPT US)
R36	1-216-089-91	RES,CHIP	47K	5%	1/10W (EXCEPT US)
R36	1-216-845-11	METAL CHIP	100K	5%	1/16W (US)
R37	1-216-017-91	METAL CHIP	47	5%	1/10W (US)
R50	1-216-041-91	METAL CHIP	470	5%	1/10W (EXCEPT US)
R51	1-216-001-00	METAL CHIP	10	5%	1/10W (EXCEPT US)
R52	1-216-081-00	METAL CHIP	22K	5%	1/10W (EXCEPT US)
R53	1-216-057-00	METAL CHIP	2.2K	5%	1/10W (EXCEPT US)
R54	1-216-065-91	RES,CHIP	4.7K	5%	1/10W (EXCEPT US)
R55	1-216-065-91	RES,CHIP	4.7K	5%	1/10W (EXCEPT US)
R56	1-216-065-91	RES,CHIP	4.7K	5%	1/10W (EXCEPT US)
R60	1-216-041-00	METAL CHIP	470	5%	1/10W (EXCEPT US)
R61	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (EXCEPT US)
R70	1-216-295-00	METAL CHIP	0	5%	1/10W (EXCEPT US)
R71	1-216-295-00	METAL CHIP	0	5%	1/10W (EXCEPT US)
		< TERMINAL >			
TB50	1-694-215-11	TERMINAL BOARD (FM EXT ANTENNA)			(EXCEPT US)
		< TUNER >			
* TU1	1-693-378-11	TUNER UNIT (EXCEPT US)			
TU1	1-693-426-11	TUNER PACK (US)			
		< VIBRATOR >			
X1	1-760-130-11	VIBRATOR, CRYSTAL (75kHz)			
**********					
		MISCELLANEOUS			
		**********			
58	1-533-293-11	FUSE HOLDER			
⚠67	1-575-651-21	CORD, POWER (EXCEPT US)			
⚠67	1-783-531-31	CORD, POWER (US)			
108	1-783-539-11	WIRE, PARALLEL (FFC) (15 CORE)			
110	1-783-537-11	WIRE, PARALLEL (21 CORE)			
111	1-783-538-11	WIRE, PARALLEL (FFC) (13 CORE)			
153	1-660-966-11	OP RELAY FLEXIBLE BOARD			
159	1-783-542-11	WIRE, PARALLEL (FFC) (29 CORE)			
160	1-783-540-11	WIRE, PARALLEL (FFC) (19 CORE)			
161	1-790-045-11	WIRE, PARALLEL (26 CORE)(60 mm)			
162	1-777-517-11	WIRE, PARALLEL (15 CORE)			
165	1-790-046-11	WIRE, PARALLEL (26 CORE)(172 mm)			
⚠217	8-583-028-02	DEVICE,MINI DISK KMS-260A			
303	1-690-530-21	LEAD (WITH CONNECTOR)			
308	1-660-965-11	PC BOARD, SLIDE FLEXIBLE			
⚠309	X-4946-311-1	OPTICAL PICK-UP (DAX-11A)			
ANT1	1-501-480-11	ANTENNA, TELESCOPIC			
⚠F951	1-576-101-11	FUSE (1.25A/125V) (US)			
⚠F951	1-532-502-51	FUSE, TIME LAG (1.25A/250V) (EXCEPT US)			
⚠F952	1-533-310-11	FUSE, GLASS TUBE (6.3A/125V) (US)			
⚠F952	1-532-506-51	FUSE, TIME LAG (6.3A/250V) (EXCEPT US)			
⚠F953	1-532-465-51	FUSE, TIME LAG (3.15A/250V) (EXCEPT US)			
⚠F953	1-576-107-11	FUSE (3.15A/125V) (US)			
FL401	1-517-744-11	INDICATOR TUBE, FLUORESCENT			
HR901	1-500-396-11	HEAD, OVER WRITE			
M691	1-698-999-11	MOTOR, DC (LOADING)			
M801	A-3303-403-A	MOTOR ASSY, SLED (INCLUDING GEAR)			
M802	A-3320-300-A	MOTOR ASSY, TURN TABLE (SPINDLE)			
M901	A-4672-135-A	MOTOR ASSY, SPINDLE			
M902	A-4672-133-A	MOTOR ASSY, SLED (INCLUDING GEAR)			
M903	A-4672-134-A	MOTOR ASSY, LOADING (INCLUDING GEAR)			
S901	1-571-099-21	SWITCH (1 KEY) (LIMIT)			
SP101	1-505-829-11	SPEAKER (8cm) (L-CH)			
SP201	1-505-829-11	SPEAKER (8cm) (R-CH)			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
⚠T951	1-433-445-11	TRANSFORMER, POWER (US)	
⚠T951	1-433-444-11	TRANSFORMER, POWER (EXCEPT US)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-501-374-11	ANTENNA, LOOP	
⚠	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)	
	3-704-222-11	LABEL, SERIAL NUMBER (PRINTER)	(EXCEPT US)
	3-861-445-11	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-861-445-21	MANUAL, INSTRUCTION (ENGLISH, SPANISH)	(EXCEPT US)
	3-861-445-31	MANUAL, INSTRUCTION (FRENCH, GERMAN)	(AEP, JE)
	3-861-445-41	MANUAL, INSTRUCTION (DUTCH, PORTUGUESE) (AEP)	
	3-861-445-51	MANUAL, INSTRUCTION (SWEDISH, FINNISH)	(AEP)
	3-861-445-61	MANUAL, INSTRUCTION (ITALIAN) (AEP)	
	3-861-445-71	MANUAL, INSTRUCTION (POLISH, RUSSIAN)	(EE,Russian)
	3-861-445-81	MANUAL, INSTRUCTION (CZECH, HUNGALIAN) (EE,Russian)	
	4-991-047-01	LID, BATTERY CASE (FOR RMT-CM7)	
	8-917-623-90	REMOTE COMMANDER, SONY RMT-CM7 (US)	
	8-917-661-90	REMOTE COMMANDER RMT-CM7AD	(EXCEPT US)
	X-3374-655-1	NET (L) ASSY, SP (EXCEPT US)	
	X-3374-656-1	NET (R) ASSY, SP (EXCEPT US)	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-621-773-86	SCREW +B 2.6X4	
#2	7-685-850-04	SCREW +BVTT 2X3 (S)	
#3	7-627-552-27	SCREW,PRECISION +P 1.7X2	
#4	7-685-548-19	SCREW +BTP 3X12 TYPE2 N-S	
#5	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3	
#6	7-685-851-04	SCREW +BVTT 2X4 (S)	
#7	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
#8	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#9	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
#10	7-685-872-09	SCREW +BVTT 3X8 (S)	
#11	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#12	7-627-850-17	SCREW, PRECISION +P 1.4X2.5	
#13	7-685-661-79	SCREW +BVTP 4X12 TYPE2 N-S	
#14	7-685-650-79	SCREW +BVTP 3X16 TYPE2 N-S	
#15	7-685-548-19	SCREW, +BTP 3X12 TYPE2 N-S	
#16	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	

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